

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

ADEIA TECHNOLOGIES, INC., ADEIA
GUIDES INC. AND ADEIA MEDIA
HOLDINGS LLC,

PLAINTIFFS,

V.

THE WALT DISNEY COMPANY, DISNEY
MEDIA AND ENTERTAINMENT
DISTRIBUTION LLC, DISNEY DTC LLC,
DISNEY STREAMING SERVICES LLC,
DISNEY ENTERTAINMENT & SPORTS
LLC, DISNEY PLATFORM
DISTRIBUTION, INC., BAMTECH, LLC,
HULU, LLC, AND ESPN, INC.

DEFENDANTS.

CIVIL ACTION NO.:

JURY TRIAL DEMANDED

PLAINTIFFS' COMPLAINT FOR PATENT INFRINGEMENT

Adeia Technologies Inc., Adeia Guides Inc., and Adeia Media Holdings LLC (collectively, the “Adeia Plaintiffs”) bring this action for patent infringement against The Walt Disney Company; Disney Media and Entertainment Distribution LLC; Disney DTC LLC; Disney Streaming Services LLC; Disney Entertainment & Sports LLC; Disney Platform Distribution, Inc.; BAMTech, LLC; Hulu, LLC; and ESPN, Inc. (collectively, the “Defendants”), for infringement of U.S. Patent Nos. 9,762,639 (“the ’639 patent”); 8,280,987 (“the ’987 patent”); 9,860,595 (“the ’595 patent”); 10,165,324 (“the ’324 patent”); 8,542,705 (“the ’705 patent”); and 9,235,428 (“the ’428 patent”) (collectively, the “Asserted Patents”). The Adeia Plaintiffs, on personal knowledge as to their own acts, and upon information and belief as to all others based on investigation, allege as follows:

THE PARTIES

A. Adeia

1. Plaintiff Adeia Technologies Inc. (“Adeia Technologies”) is a Delaware corporation with a principal place of business at 3025 Orchard Parkway, San Jose, California 95134. Adeia Technologies is a wholly owned subsidiary of Adeia Inc., which is a publicly traded company (ADEA), listed on NASDAQ.

2. Plaintiff Adeia Guides Inc. (“Adeia Guides”) is a Delaware corporation with a principal place of business at 3025 Orchard Parkway, San Jose, California 95134. Adeia Guides is a wholly owned subsidiary of Adeia Inc.

3. Plaintiff Adeia Media Holdings LLC (“Adeia Media Holdings”) is a Delaware limited liability company with a principal place of business at 3025 Orchard Parkway, San Jose, California 95134. Adeia Media Holdings is a wholly owned subsidiary of Adeia Inc.

4. Adeia Technologies, Adeia Guides, and Adeia Media Holdings are collectively referred to herein as the “Adeia Plaintiffs.” Adeia Inc. along with its subsidiaries are referred to herein collectively as “Adeia.”

5. Adeia invents, develops, and licenses fundamental technology that shapes the way millions of people explore and experience entertainment and enhances billions of devices in an increasingly connected world.

6. Adeia presently owns over 11,500 patents and patent applications worldwide. Adeia’s media patent portfolio covers fundamental aspects of the entertainment experience across platforms, including how users discover and stream media content. The Asserted Patents are part of Adeia’s media patent portfolio. Adeia’s semiconductor patent portfolio covers crucial semiconductor manufacturing technology such as hybrid bonding, advanced processing nodes, and advanced packaging.

7. Adeia's history of innovation stretches back over 30 years through its predecessor companies such as United Video, Gemstar, TiVo, Macrovision, Rovi, and MobiTV, to name but a few.

8. Take, for instance, Adeia predecessor United Video. Founded in 1965, United Video was a visionary in broadcasting and entertainment. Its story begins in an era before interactive and digital programming guides existed, when viewers would have to look in a newspaper or paper magazine to find out the schedule for their TV stations. United Video offered one of the first, if not the first, on-screen electronic program guides in North America in 1981. This electronic program guide was not interactive, but instead automatically scrolled through program listings on a dedicated channel. United Video's electronic program guide technology was widely adopted by North American cable systems. United Video continued to innovate in the decades that followed, including through work on interactive program guide technology.

9. Adeia predecessor Gemstar provides another example. Whether using a printed program guide or a non-interactive electronic program guide like the one pioneered by United Video to locate shows of interest, programming a VCR to record those shows presented a fresh challenge in the 1980s. The arcane steps required made it inordinately difficult for regular users to record their favorite TV programming. Gemstar set about to make the technology more consumer friendly. Gemstar's first innovation was VCR Plus, which assigned numeric codes to programs so that a single code would tell the VCR how to record the program (what channel, what time, how long, etc.). Gemstar followed that up with its Guide Plus Gold innovation, which permitted users to—via remote control—highlight a program in an interactive on-screen guide, see a detailed description, and program their VCRs to record it with one button click. Gemstar's innovations were widely acclaimed. But Gemstar was not a hardware manufacturer able to mass

produce VCRs. Rather, Gemstar licensed its technology to the leading VCR makers, who incorporated it into their products and made them widely available to consumers.¹

10. Another Adeia predecessor, Macrovision, designed, developed and marketed video security technologies and products that provide copy protection and video scrambling for motion pictures and other proprietary video material. Its business model also centered on licensing its technology, and in 1997, Macrovision technology was estimated to protect 1.5 billion cassettes, primarily Hollywood releases, from unauthorized copying.²

11. Macrovision acquired Gemstar, broadening the range of technology it offered to its licensees. Macrovision eventually changed its name to Rovi. Rovi remained active in developing new technology, investing over \$300 million in research and development from 2014 to 2017 alone.

12. Rovi also continued to make strategic investments in entertainment-related technologies. For example, in 2011 it acquired Sonic Solutions, the company that originally filed the application for one of the Asserted Patents.³ Sonic Solutions was a market-leading computer-software company created by former Lucasfilm employees Robert Doris, Mary Sauer, and Andy

¹ See, e.g., Walter Hamiton & Karen Kaplan, *Can Gemstar Keep Rising?*, LA TIMES, (Aug. 9, 1998), <https://www.latimes.com/archives/la-xpm-1998-aug-09-fi-11494-story.html>.

² See, e.g., Macrovision Corp., SEC Rule 424(b)(4) Filing at 3 (Mar. 14, 1997), <https://www.sec.gov/Archives/edgar/data/1027443/000091205797008691/0000912057-97-008691.txt>.

³ See, e.g., Don Reisinger, *Rovi to buy Sonic for \$720 million*, CNET (Dec. 23, 2010), https://web.archive.org/web/20140305193416/http://news.cnet.com/8301-13506_3-20026481-17.html.

Moorer, who developed “SoundDroid,” a digital audio editing system, as part of the Droid Works project at the Lucasfilm Computer Division. Its technologies were used to restore tens of thousands of recordings, including movie and TV soundtracks. Sonic Solutions even received an Emmy® for outstanding technical achievement for its work in that space.⁴

13. Sonic Solutions was also a leader in developing technologies for the preparation and delivery of entertainment content in popular formats—CD, DVD, Blu-ray Disc and Internet delivery of video. Sonic Solutions created RoxioNow, its own digital-media delivery platform with over 10,000 movies and TV shows, boasting partnerships with content providers such as Universal, Fox, and others, designed to bring “Hollywood to Home.”⁵

14. Similarly, Adeia predecessor TiVo Inc. transformed the television watching experience with its digital video recorders (DVR), ultimately dethroning the VCR as a primary mechanism for household recording of broadcast content. Its first model, the TiVo HDR110, launched commercially in March 1999. TiVo received wide acclaim and recognition for its pioneering work. For example, then-FCC Chairman Michael Powell praised TiVo’s innovative technology during a public appearance at the 2003 Consumer Electronics Show, calling it “God’s machine.” “I can’t wait to walk in the house each day to see what it’s recorded for me,” he

⁴ See, e.g., *Sonic Solutions NoNOISE Honored with Emmy Award; Recognized for Groundbreaking Digital Sound Restoration Product*, SONIC SOLUTIONS (Oct. 2, 1996), <https://web.archive.org/web/20160305025036/http://www.thefreelibrary.com/Sonic+Solutions+NoNOISE+Honored+with+Emmy+Award;+Recognized+for+...-a018722139>.

⁵ See, e.g., *Sonic Launches RoxioNow(TM)*, SONIC SOLUTIONS (Apr. 22, 2010), <https://www.prnewswire.com/news-releases/sonic-launches-roxionowtm-91798269.html>.

continued.⁶ In 2007, PC World Magazine awarded the TiVo HDR110 the number 3 spot on its list of the 50 Best Tech Products of All Time.⁷ Time Magazine listed the TiVo DVR as one of the All-TIME 100 Gadgets in 2010, alongside other devices such as Amazon Kindle and Apple iPhone.⁸ The original TiVo DVR was in the United States Patent and Trademark Office National Inventors Hall of Fame. TiVo even won three Emmys[®]—for “Pioneering the Development” of the DVR, “Outstanding Innovation” in “Advanced Media Technology,” and “Outstanding Achievement in Interactive Television.”⁹

15. In addition to selling its own hardware that implemented its technical innovations, such as the TiVo HDR110, TiVo also licensed its technology to others in the industry. For example, DISH Network and EchoStar licensed certain important TiVo patents for use in their own DVRs. Additionally, DirectTV offered its customers set-top boxes for its satellite service that incorporated TiVo’s DVR technology, which were sometimes referred to as DirecTivos.

⁶ See, e.g., Benny Evangelista, *PLENTY OF COMPANY / Everybody’s talking about TiVo, but the digital video recorder pioneer is just one of many*, SFGATE (Feb. 24, 2003), <https://www.sfgate.com/business/article/PLENTY-OF-COMPANY-Everybody-s-talking-about-2632474.php>.

⁷ See, e.g., Christopher Null, *PC World: The 50 best tech products of all time*, MACWORLD (Apr. 1, 2007), <https://www.macworld.com/article/185028/50besttech.html>.

⁸ See, e.g., Peter Ha, *All-TIME 100 Gadgets*, TIME (Oct. 25, 2010), https://content.time.com/time/specials/packages/article/0,28804,2023689_2023681_2023596,00.html.

⁹ See, e.g., *Emmy award-winning TiVo service*, TIVO, https://www.tivo.com/assets/popups/popup_emmyaward.html.

16. In 2016, Rovi acquired TiVo. The combined company continued to be active in its internal research and development efforts and continued to seek out opportunities to acquire other innovative technology companies. One such acquisition was MobiTV.

17. Founded in 1999, MobiTV was one of the pioneers in bringing live and on-demand TV to mobile devices, boasting partnerships with numerous content providers, including CNN, CNBC, Fox News Channel, the Weather Channel, ESPN, and ABC News.¹⁰ MobiTV allowed users to receive live streaming content on mobile phones, including events in extremely high demand. In 2010, for instance, MobiTV was used to stream more than 88 million minutes of World Cup coverage.¹¹ The service was incredibly popular. In 2010, MobiTV's app was the second-highest grossing on the Apple AppStore.¹² One of the Asserted Patents was originally filed by MobiTV.

18. Like its predecessors, Adeia remains committed to technological innovation. Adeia spends tens of millions of dollars per year on research and development. These efforts have contributed to the continued growth of Adeia's patent portfolio. In the past several years alone, Adeia's inventors have participated in over thirty joint research partnerships with R&D

¹⁰ See, e.g., Bruce Meyerson, *MobiTV reaches 2 million users*, NBC NEWS (Feb. 28, 2007), <https://www.nbcnews.com/id/wbna17388357>.

¹¹ See, e.g., Michael Grotticelli, *MobiTV helps stream over 88 million minutes of live World Cup coverage*, TV TECH (July 12, 2010), <https://www.tvtechnology.com/equipment/mobitv-helps-stream-over-88-million-minutes-of-live-world-cup-coverage>.

¹² See, e.g., Ari Levy & Ian King, *MobiTV to Offer Service on Android Devices After iPhone Success*, BLOOMBERG (June 25, 2010), <https://www.bloomberg.com/news/articles/2010-06-25/mobitv-to-offer-service-on-android-devices-after-iphone-success>.

organizations and academic institutions across the globe. In the semiconductor space, Adeia's engineers are supported by over 3,000 square feet of clean room space and wafer fabrication capabilities.

19. Beyond Adeia's internal R&D efforts, its patent portfolio has also grown through strategic acquisitions of technology from other leading-edge companies. For example, Adeia recently acquired certain patents from a global leader in content streaming, Brightcove Inc., including two of the Asserted Patents. Brightcove itself is the recipient of two different Technology & Engineering Emmy® Awards.¹³ Some of the patents originated from Brightcove's predecessor, Unicorn Media. Unicorn Media pioneered an innovative, cloud-based streaming service called Once. The Once service was designed to make it possible for digital media companies to reliably deliver live or on-demand video to end users across a wide variety of device types through dynamically customized streaming.¹⁴ The Once service delivered patented technology that allowed publishers to ingest content once and receive a single URL that could be requested by any IP-enabled video playback device. On the back-end, the service would dynamically tailor the delivery of the streaming data to account for the needs of the particular device. In addition to tailoring the streams to the device, it could also tailor the content to the user by, for example, inserting personalized ads into the stream to create a seamless, TV-like

¹³ See, e.g., *About Brightcove*, BRIGHTCOVE, <https://www.brightcove.com/en/company/about/>.

¹⁴ See, e.g., *Brightcove Completes Unicorn Media Acquisition*, BRIGHTCOVE (Jan. 31, 2014), <https://www.brightcove.com/en/company/press/brightcove-completes-unicorn-media-acquisition/>.

experience.¹⁵ Unicorn Media's groundbreaking technology garnered industry praise, such as earning top honors in the Digital Video Technology Platform category at the Cynopsis Digital Model D Awards in November 2013.¹⁶

20. Through its licensing program, Adeia places the many valuable innovations represented in its patent portfolios in the hands of consumers via the products and services offered by its licensing partners.

21. The identities of the companies who have chosen to become and remain Adeia licensees stand as a testament to the value of the technology Adeia offers. For example, top U.S. pay-TV providers (*e.g.*, AT&T, Verizon, Cox Communications, Comcast, DirecTV, DISH, Spectrum, Frontier) have licensed Adeia's media patent portfolio. Likewise, streaming giants such as Google (YouTube, Google TV) and Paramount (Paramount+, Pluto TV) are among Adeia's licensees, as are hardware manufacturers such as Sony, TCL, Roku, and Samsung.

B. Defendants

22. Defendant The Walt Disney Company is a Delaware corporation with a principal place of business at 500 South Buena Vista Street, Burbank, California, 91521. The Walt Disney Company has designated the Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808 as its agent for service of process.

¹⁵ See, *e.g.*, *Unicorn Media Announces Support for Adobe HTTP Dynamic Streaming*, UNICORN MEDIA (May 9, 2011), <https://www.prnewswire.com/news-releases/unicorn-media-announces-support-for-adobe-http-dynamic-streaming-121490384.html>.

¹⁶ See, *e.g.*, *Unicorn Media Earns Cynopsis Digital Model D Award For Groundbreaking Unicorn Once™ Solution*, UNICORN MEDIA (Nov. 20, 2013), <https://www.prnewswire.com/news-releases/unicorn-media-earns-cynopsis-digital-model-d-award-for-groundbreaking-unicorn-once-solution-232651281.html>.

23. Defendant Disney Media and Entertainment Distribution LLC is a Delaware limited liability company with a principal place of business at 500 South Buena Vista Street, Burbank, California, 91521. Disney Media and Entertainment Distribution LLC has designated the Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808 as its agent for service of process.

24. Defendant Disney DTC LLC is a Delaware limited liability company with a principal place of business at 500 South Buena Vista Street, Burbank, California 91521. Disney DTC LLC has designated the Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808 as its agent for service of process.¹⁷

25. Defendant Disney Streaming Services LLC is a Delaware limited liability company with a principal place of business at 500 South Buena Vista Street, Burbank, California, 91521. Disney Streaming Services LLC has designated the Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808 as its agent for service of process.

26. Disney Entertainment & Sports LLC¹⁸ is a Delaware limited liability company with a principal place of business at 500 South Buena Vista Street, Burbank, California, 91521. Disney

¹⁷ Public filings indicate that Disney DTC LLC may now be known as Disney Platform Distribution, Inc. *See e.g., In re Disney DTC, LLC*, No. 05-23-00485-CV, 2024 WL 358117 (Tex. App.—Dallas Jan. 31, 2024). On this basis, all allegations relating to Disney DTC LLC shall also apply to Disney Platform Distribution, Inc.

¹⁸ Delaware and California public filings indicate that Disney Entertainment & Sports LLC was previously called Disney Streaming Technology LLC and/or Disney Technology LLC. For the avoidance of doubt, and with the goal to provide adequate notice to the appropriate party, all allegations relating to Disney Entertainment & Sports LLC shall also apply to Disney Streaming Technology LLC and Disney Technology LLC, and vice versa.

Entertainment & Sports LLC has designated the Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808 as its agent for service of process.

27. Defendant Disney Platform Distribution, Inc. is a Delaware corporation with a principal place of business at 500 South Buena Vista Street, Burbank, California, 91521. Disney Platform Distribution, Inc. has designated the Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808 as its agent for service of process.

28. Defendant BAMTech, LLC is a Delaware limited liability company with a principal place of business at 1211 Avenue of the Americas, New York, New York 10036. BAMTech, LLC has designated the Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808 as its agent for service of process.

29. Defendant Hulu, LLC is a Delaware limited liability company with a principal place of business at 2500 Broadway, Santa Monica, CA 90404. Hulu, LLC has designated the Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808 as its agent for service of process.

30. Defendant ESPN, Inc. is a Delaware corporation with a principal place of business at ESPN Plaza, Bristol, Connecticut 06010. ESPN, Inc. has designated the Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808 as its agent for service of process.

JURISDICTION AND VENUE

31. This action includes claims of patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1 et seq. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

32. This Court has general personal jurisdiction over Defendants because each of their affiliations with the State of Delaware are so systematic and continuous to render each Defendant at home in Delaware. In particular, each Defendant is incorporated in, or is a limited liability

company formed under the laws of, the State of Delaware, and each Defendant has designated an agent for service of process in Delaware.

33. This Court also has specific personal jurisdiction over Defendants because they have established minimum contacts with this forum such that the exercise of jurisdiction over Defendants would not offend traditional notions of fair play and substantial justice. Defendants, either directly or through subsidiaries or intermediaries, have conducted business in this District by marketing, selling, offering for sale, and operating their products and services, including each of the accused streaming services that practice the patents and claims asserted in this action. In addition, Defendants distribute streaming media through content distribution networks that use servers in this District, which are controlled by Defendants and configured to infringe the Asserted Patents.

34. Venue is proper in this District pursuant to 28 U.S.C. § 1400(b) because all Defendants reside in this District.

FACTUAL BACKGROUND

35. The Adeia Plaintiffs present their claims and allegations herein in conjunction and/or in the alternative. To the extent that certain claims or allegations may be inconsistent with one another, such allegations should be understood to be made in the alternative.

A. Defendants' Infringing Streaming Services

36. The streaming services that collectively infringe the Asserted Patents (as set forth in detail below) are Disney+, Hulu, Hulu Live (sometimes referred to as Hulu + Live TV), and ESPN+. These may sometimes be referred to herein as the Accused Instrumentalities.

37. Disney+ is a standalone service for streaming on-demand media content from Disney, Pixar, Marvel, Star Wars, and National Geographic. The Disney+ service also provides access to certain on-demand media content from Hulu for certain subscribers. A Disney+

subscription includes access to the Disney+ content available in the subscriber's geographic region and personalized recommendations. There are over 500 films, 15,000 episodes, and 80 Disney+ "Originals" available on Disney+. ¹⁹ The subscription allows users to stream across multiple supported devices at once. ²⁰ Disney+ supports streaming on web browsers, mobile devices, tablets, streaming sticks, gaming consoles, smart TVs, and set-top boxes. ²¹

38. Hulu is a streaming service that offers both live and on-demand content. Hulu provides access to television shows from every major U.S. broadcast network, libraries of television series and films—including Hulu Originals and other content available exclusively on Hulu. Hulu supports streaming on web browsers, mobile devices, tablets, streaming sticks, gaming consoles, smart TVs, and set-top boxes. ²² Hulu offers a Live TV component to its subscriptions that includes access to 95+ live television channels. Hulu Live subscribers can watch live sports, breaking news, awards shows, primetime dramas, daytime soaps, local teams and weather forecasts, the latest Hulu Originals, and thousands of shows and movies in the Hulu streaming library. ²³

¹⁹ See, e.g., *Getting started with Disney+*, DISNEY+ HELP CENTER, <https://help.disneyplus.com/article/disneyplus-en-us-introduction>.

²⁰ See, e.g., *Getting started with Disney+*, DISNEY+ HELP CENTER, <https://help.disneyplus.com/article/disneyplus-en-us-introduction>.

²¹ See, e.g., *Disney+ supported devices*, DISNEY+ HELP CENTER, <https://help.disneyplus.com/article/disneyplus-en-us-devices-supported>.

²² See, e.g., *About Hulu*, HULU PRESS, <https://press.hulu.com/corporate/>.

²³ See, e.g., *Hulu + Live TV Plans*, HULU HELP CENTER, <https://help.hulu.com/article/hulu-what-is-hulu-live-tv>.

39. ESPN+ is a streaming service that allows users to stream live sports from the best leagues in the world and original series from the biggest names in sports. An ESPN+ subscription provides users with access to thousands of live events from UFC, NFL, NHL, FA Cup, MLB, Grand Slam tennis, PGA TOUR LIVE, LaLiga, Top Rank Boxing, and more — plus a variety of college sports, including football, basketball, baseball, and lacrosse, from over 20 conferences.²⁴ ESPN+ supports streaming on web browsers, mobile devices, tablets, streaming sticks, gaming consoles, smart TVs, and set-top boxes.²⁵

40. The Walt Disney Company manages and directs the operations of Disney+.

41. The Walt Disney Company manages and directs the operations of Hulu.

42. The Walt Disney Company manages and directs the operations of Hulu Live.

43. The Walt Disney Company manages and directs the operations of ESPN+.

44. The Walt Disney Company employs and controls executives or other employees responsible for Disney+.

45. The Walt Disney Company employs and controls executives or other employees responsible for Hulu.

46. The Walt Disney Company employs and controls executives or other employees responsible for Hulu Live.

47. The Walt Disney Company employs and controls executives or other employees responsible for ESPN+.

²⁴ See, e.g., *Getting Started With ESPN+*, ESPN SUPPORT, <https://support.espn.com/hc/en-us/articles/13617221045652-Getting-Started-With-ESPN>.

²⁵ See, e.g., *ESPN+ Supported Devices*, ESPN SUPPORT, <https://support.espn.com/hc/en-us/articles/13616954144148-ESPN-Supported-Devices>.

48. Disney Media and Entertainment Distribution LLC manages and operates Disney+.

49. Disney Media and Entertainment Distribution LLC manages and operates Hulu.

50. Disney Media and Entertainment Distribution LLC manages and operates Hulu Live.

51. Disney Media and Entertainment Distribution LLC manages and operates ESPN+.

52. Disney Media and Entertainment Distribution LLC is responsible for the P&L management and distribution, operations, sales, advertising, data, and technology functions for Disney+.

53. Disney Media and Entertainment Distribution LLC is responsible for the P&L management and distribution, operations, sales, advertising, data, and technology functions for Hulu.

54. Disney Media and Entertainment Distribution LLC is responsible for the P&L management and distribution, operations, sales, advertising, data, and technology functions for Hulu Live.

55. Disney Media and Entertainment Distribution LLC is responsible for the P&L management and distribution, operations, sales, advertising, data, and technology functions for ESPN+.

56. Disney Platform Distribution, Inc. manages third-party media sales efforts for distribution, affiliate marketing, and affiliate-related business operations for Disney+.

57. Disney Platform Distribution, Inc. manages third-party media sales efforts for distribution, affiliate marketing, and affiliate-related business operations for Hulu.

58. Disney Platform Distribution, Inc. manages third-party media sales efforts for distribution, affiliate marketing, and affiliate-related business operations for Hulu Live.

59. Disney Platform Distribution, Inc. manages third-party media sales efforts for distribution, affiliate marketing, and affiliate-related business operations for ESPN+.

60. Disney Platform Distribution, Inc. negotiates contracts for the distribution of content for Disney+.

61. Disney Platform Distribution, Inc. negotiates contracts for the distribution of content for Hulu.

62. Disney Platform Distribution, Inc. negotiates contracts for the distribution of content for Hulu Live.

63. Disney Platform Distribution, Inc. negotiates contracts for the distribution of content for ESPN+.

64. Disney Platform Distribution, Inc. procures content delivery network and cloud computing services for Disney+.

65. Disney Platform Distribution, Inc. procures content delivery network and cloud computing services for Hulu.

66. Disney Platform Distribution, Inc. procures content delivery network and cloud computing services for Hulu Live.

67. Disney Platform Distribution, Inc. procures content delivery network and cloud computing services for ESPN+.

68. Disney Streaming Services LLC provides finance and marketing functions for Disney+.

69. Disney Streaming Services LLC provides finance and marketing functions for Hulu.

70. Disney Streaming Services LLC provides finance and marketing functions for Hulu Live.

71. Disney Streaming Services LLC provides finance and marketing functions for ESPN+.

72. Disney Entertainment & Sports LLC designs and maintains the front-end and back-end infrastructure of Disney+.

73. Disney Entertainment & Sports LLC designs and maintains the front-end and back-end infrastructure of Hulu.

74. Disney Entertainment & Sports LLC designs and maintains the front-end and back-end infrastructure of Hulu Live.

75. Disney Entertainment & Sports LLC designs and maintains the front-end and back-end infrastructure of ESPN+.

76. Disney Entertainment & Sports LLC builds and maintains critical back-end services responsible for supporting streaming media subscriptions on Disney+.

77. Disney Entertainment & Sports LLC builds and maintains critical back-end services responsible for supporting streaming media subscriptions on Hulu.

78. Disney Entertainment & Sports LLC builds and maintains critical back-end services responsible for supporting streaming media subscriptions on Hulu Live.

79. Disney Entertainment & Sports LLC builds and maintains critical back-end services responsible for supporting streaming media subscriptions on ESPN+.

80. Disney Entertainment & Sports LLC is responsible for end-to-end development for Disney+.

81. Disney Entertainment & Sports LLC is responsible for end-to-end development for Hulu.

82. Disney Entertainment & Sports LLC is responsible for end-to-end development for Hulu Live.

83. Disney Entertainment & Sports LLC is responsible for end-to-end development for ESPN+.

84. Disney Entertainment & Sports LLC provides the technological backbone and product development for Disney+.

85. Disney Entertainment & Sports LLC provides the technological backbone and product development for Hulu.

86. Disney Entertainment & Sports LLC provides the technological backbone and product development for Hulu Live.

87. Disney Entertainment & Sports LLC provides the technological backbone and product development for ESPN+.

88. Disney DTC LLC is responsible for content management and planning for Disney+.

89. Disney DTC LLC is responsible for content management and planning for Hulu.

90. Disney DTC LLC is responsible for content management and planning for Hulu Live.

91. Disney DTC LLC is responsible for content management and planning for ESPN+.

92. Disney DTC LLC manages third-party media sales efforts for distribution, affiliate marketing, and affiliate-related business operations for Disney+.

93. Disney DTC LLC manages third-party media sales efforts for distribution, affiliate marketing, and affiliate-related business operations for Hulu.

94. Disney DTC LLC manages third-party media sales efforts for distribution, affiliate marketing, and affiliate-related business operations for Hulu Live.

95. Disney DTC LLC manages third-party media sales efforts for distribution, affiliate marketing, and affiliate-related business operations for ESPN+.

96. Disney DTC LLC negotiates contracts for the distribution of content for Disney+.

97. Disney DTC LLC negotiates contracts for the distribution of content for Hulu.

98. Disney DTC LLC negotiates contracts for the distribution of content for Hulu Live.

99. Disney DTC LLC negotiates contracts for the distribution of content for ESPN+.

100. Disney DTC LLC procures content delivery network and cloud computing services for Disney+.

101. Disney DTC LLC procures content delivery network and cloud computing services for Hulu.

102. Disney DTC LLC procures content delivery network and cloud computing services for Hulu Live.

103. Disney DTC LLC procures content delivery network and cloud computing services for ESPN+.

104. BAMTech, LLC develops and maintains ESPN+.

105. BAMTech, LLC designs and maintains the front-end and back-end infrastructure for ESPN+.

106. BAMTech, LLC builds and maintains critical back-end services responsible for supporting streaming media subscriptions for ESPN+.

107. BAMTech, LLC is responsible for end-to-end development for ESPN+.

108. BAMTech, LLC provides the technological backbone and product development for ESPN+.

109. Hulu, LLC develops and maintains Hulu.

110. Hulu, LLC develops and maintains Hulu Live.

111. Hulu, LLC designs and maintains the front-end and back-end infrastructure for Hulu.

112. Hulu, LLC designs and maintains the front-end and back-end infrastructure for Hulu Live.

113. Hulu, LLC builds and maintains critical back-end services responsible for supporting streaming media subscriptions for Hulu.

114. Hulu, LLC builds and maintains critical back-end services responsible for supporting streaming media subscriptions for Hulu Live.

115. Hulu, LLC is responsible for end-to-end development for Hulu.

116. Hulu, LLC is responsible for end-to-end development for Hulu Live.

117. Hulu, LLC provides the technological backbone and product development for Hulu.

118. Hulu, LLC provides the technological backbone and product development for Hulu Live.

119. Hulu, LLC is responsible for financing and marketing functions for Hulu.

120. ESPN, Inc. manages and operates ESPN+.

121. ESPN, Inc. is responsible for content management and planning for ESPN+.

122. ESPN, Inc. is responsible for financing and marketing functions for ESPN+.

123. Disney Streaming Technology LLC (now known as Disney Entertainment & Sports LLC) is a party to the terms of use of a Disney Streaming technology blog hosted on the Medium

website, titled “The Art of Possible,” which displays the Hulu, Disney+, and ESPN+ logos next to the Disney Streaming logo at the top of the page.²⁶

124. Disney Platform Distribution, Inc. is a party to the subscriber agreement for Disney+.²⁷

125. BAMTech, LLC is a party to the subscriber agreement for ESPN+.²⁸

126. Hulu, LLC is a party to the subscriber agreement for Hulu and Hulu Live.²⁹

127. When an ESPN+ subscriber is logged in, the “Manage Your Account” page on the ESPN+ website lists the subscriber’s account as a “MyDisney” account. The subscriber agreement link at the bottom of this page on the ESPN+ website links to a subscriber agreement webpage hosted on the Disney+ website. The ESPN+ website provides a link for the subscriber to manage his or her MyDisney account, which links to a page on a Disney website (my.disney.com).

128. Disney+ and ESPN+ share a subscriber agreement that is hosted on the Disney+ website.

129. When a Hulu subscriber is logged in, the “Manage Your Account” page on the Hulu website lists the subscriber’s account as a “MyDisney” account. The Hulu website provides a link for the subscriber to manage his or her MyDisney account, which links to a page on a Disney website (my.disney.com).

²⁶ See The Art of Possible, MEDIUM, <https://medium.com/disney-streaming>.

²⁷ See *Subscriber Agreement*, DISNEY+ (Jan. 25, 2024), <https://www.disneyplus.com/legal/subscriber-agreement>.

²⁸ *Id.*

²⁹ *Hulu Subscriber Agreement*, HULU (Jan. 25, 2024), https://www.hulu.com/subscriber_agreement.

130. When a Disney+ subscriber is logged in, the “Manage Your Account” page on the Disney+ website lists the subscriber’s account as a “MyDisney” account. The Disney+ website provides a link for the subscriber to manage his or her MyDisney account, which links to a page on a Disney website (my.disney.com).

131. Subscriptions to Disney+, Hulu, and ESPN+ are offered for sale on the Disney+ website.

132. Subscriptions to Disney+, Hulu, and ESPN+ are sold through the Disney+ website.

133. Subscriptions to Disney+, Hulu, Hulu Live, and ESPN+ are offered for sale on the Hulu website.

134. Subscriptions to Disney+, Hulu, Hulu Live, and ESPN+ are sold through the Hulu website.

135. Subscriptions to ESPN+ are offered for sale on the ESPN+ website.

136. Subscriptions to ESPN+ are sold through the ESPN+ website.

137. Subscriptions to Hulu Live include subscriptions to Disney+ and ESPN+.

138. The Disney+ website directs users to the Hulu website to sign up for subscriptions to Hulu Live.

139. The ESPN+ website directs users to the Disney+ or Hulu websites to sign up for subscriptions to Disney+, Hulu, and Hulu Live.

140. Executives and/or employees of one or more Defendants are shared among one or more of the other Defendants.

141. Technology infrastructure of one or more Defendants is shared among one or more of the other Defendants.

142. Technology resources of one or more Defendants are shared among one or more of the other Defendants.

143. One or more Defendants promote advertising and marketing for Hulu, Disney+, and ESPN+.

144. Advertising and marketing for Hulu, Disney+, and ESPN+ refers to bundle subscriptions to two or three of the services.

145. Advertising and marketing for Hulu, Disney+, and ESPN+ encourages users to purchase a bundle subscription of two or three of the services.

146. The streaming services and/or Defendants share backend technology.

147. For example, according to Disney, “several shared-service organizations across the company [] support both Disney Entertainment and ESPN, facilitating company-wide efficiencies and creating a more cost-effective, coordinated, and streamlined approach to operations. These include Product and Technology”³⁰

148. As another example, the Disney Entertainment & ESPN Technology business “design[s] and build[s] the infrastructure that [powers] Disney’s media, advertising, and distribution businesses,” including products and platforms “from Disney+ and Hulu, to ABC News and Entertainment, to ESPN and ESPN+, and much more.”³¹

³⁰ *The Walt Disney Company Announces Strategic Restructuring, Restoring Accountability To Creative Businesses*, THE WALT DISNEY COMPANY (Feb. 9, 2023), <https://thewaltdisneycompany.com/the-walt-disney-company-announces-strategic-restructuring-restoring-accountability-to-creative-businesses/>.

³¹ *Sr Software Engineer (C/C++ or Rust)*, DISNEY CAREERS (Aug. 21, 2024), <https://www.disneycareers.com/en/job/-/sr-software-engineer-c-c-or-rust/391/69022326112>.

149. Furthermore, “Disney Entertainment and ESPN Technology (DE&E Technology) provides the technological backbone and product development for Disney’s two media business units,” which include Disney+, Hulu, and ESPN+.³²

150. As another example, “[t]he Product & Data Engineering team is responsible for end to end development for Disney’s world-class consumer-facing products, including streaming platforms Disney+, Hulu, and ESPN+.”³³

151. As another example, “BAMTech technology powers Disney+, Hulu and Disney’s other offerings.”³⁴

152. The streaming services and/or Defendants share advertising and sales functions.

153. For example, according to Disney, “several shared-service organizations across the company [] support both Disney Entertainment and ESPN, facilitating company-wide efficiencies and creating a more cost-effective, coordinated, and streamlined approach to operations. These include . . . Advertising Sales.”³⁵

³² *Id.*

³³ *Senior Software Engineer*, DISNEY CAREERS (Nov. 6, 2024), <https://www.disneycareers.com/en/job/-/sr-software-engineer/391/72137052336>.

³⁴ Alex Werpin, *Disney Pays \$900M for MLB’s Remaining Stake in Streaming Company BAMTech*, HOLLYWOOD REPORTER (Nov. 29, 2022), <https://www.hollywoodreporter.com/business/digital/disney-pays-900m-for-bamtech-1235271788/>.

³⁵ *The Walt Disney Company Announces Strategic Restructuring, Restoring Accountability To Creative Businesses*, THE WALT DISNEY COMPANY (Feb. 9, 2023), <https://thewaltdisneycompany.com/the-walt-disney-company-announces-strategic-restructuring-restoring-accountability-to-creative-businesses/>.

154. The streaming services and/or Defendants share platform distribution functions.

155. For example, according to Disney, “several shared-service organizations across the company [] support both Disney Entertainment and ESPN, facilitating company-wide efficiencies and creating a more cost-effective, coordinated, and streamlined approach to operations. These include . . . Platform Distribution.”³⁶

156. The streaming services and/or Defendants share executives and/or employees.

157. For example, Aaron LaBerge served as the President and Chief Technology Officer of Disney Entertainment and ESPN.³⁷

158. The Walt Disney Company’s Disney Entertainment segment houses Disney+ and Hulu. The Walt Disney Company’s ESPN segment houses ESPN+.³⁸

159. As another example, Justin Connolly is the “President of Disney Platform Distribution,” where he “oversees all third-party media sales efforts for distribution, distribution strategy, affiliate marketing and affiliate-related business operations for all of [The Walt Disney Company’s] direct-to-consumer services.”³⁹

³⁶ *Id.*

³⁷ Harry McCracken, *Why Disney Plus’s new Hulu integration was such a huge, high-stakes challenge*, FAST COMPANY (Dec. 7, 2023), <https://www.fastcompany.com/90993539/disney-plus-hulu-integration-beta>.

³⁸ *The Walt Disney Company Announces Strategic Restructuring, Restoring Accountability To Creative Businesses*, THE WALT DISNEY COMPANY (Feb. 9, 2023), <https://thewaltdisneycompany.com/the-walt-disney-company-announces-strategic-restructuring-restoring-accountability-to-creative-businesses/>.

³⁹ *Justin Connolly*, THE ORG, <https://theorg.com/org/disney/org-chart/justin-connolly>. *See also The Walt Disney Company Announces Strategic Restructuring, Restoring Accountability To Creative Businesses*, THE WALT DISNEY COMPANY (Feb. 9, 2023),

160. As another example, “Joe Earley is the President of Direct-to-Consumer, Disney Entertainment, where he leads efforts to expand the company’s best-in-class streaming services,” including “Disney+ and Hulu.”⁴⁰

161. As another example, “Lukas Wickart is the Senior Vice President and Chief Financial Officer for The Walt Disney Company’s direct-to-consumer video streaming businesses, leading Finance for Disney+, Hulu, [and] ESPN+.”⁴¹

162. As another example, Alisa Bowen is or was the President of Disney+. According to the Disney+ website, “Bowen has led global business operations for Disney’s streaming platforms, including Disney+, since its launch in 2019. . . . Bowen will work closely with key leaders across The Walt Disney Company to drive continued focus on innovation, including the forthcoming launch of the advertising-supported tier, as well as multi-channel promotional support for Disney+ and its robust content slate. . . . She most recently served as EVP of Global Business Operations for Disney Streaming, overseeing global content and business operations for the Company’s direct-to-consumer video streaming businesses, Disney+, Hulu, ESPN+, and Star+.”⁴²

<https://thewaltdisneycompany.com/the-walt-disney-company-announces-strategic-restructuring-restoring-accountability-to-creative-businesses/> (“Effective immediately, several shared-service organizations across the company will support both Disney Entertainment and ESPN, facilitating company-wide efficiencies and creating a more cost-effective, coordinated, and streamlined approach to operations. These include . . . Platform Distribution led by Justin Connolly.”).

⁴⁰ *Our Executive Team*, HULU PRESS, <https://press.hulu.com/executives/>.

⁴¹ *Id.*

⁴² *Alisa Bowen Named President Of Disney+*, DISNEY+ (Sept. 29, 2022), <https://press.disneyplus.com/news/alisa-bowen-named-president-of-disney-plus>.

163. As another example, Michael Paull is the former President of Disney Streaming, where he was “responsible for Disney+, Hulu, [and] ESPN+.”⁴³

164. Many Defendants also share facilities and places of business.

165. For example, The Walt Disney Company, Disney Media and Entertainment Distribution LLC, Disney DTC LLC, Disney Streaming Services LLC, Disney Platform Distribution, Inc., and BAMTech, LLC have a place of business at 500 South Buena Vista Street, Burbank, California 91521.

166. The privacy policy for each Accused Streaming Service’s website is a link to The Walt Disney Company website’s privacy policy, <https://privacy.thewaltdisneycompany.com/en/>.⁴⁴

167. The Walt Disney Company’s website also includes job posting for its subsidiaries, including Defendants.

168. For example, The Walt Disney Company’s website posted the following job application for a Senior Content Acquisition Associate, which states “This position is with Hulu, LLC”⁴⁵

⁴³ Megan duBois, *Disney Announces Executives For Its Disney Media And Entertainment Segment*, FORBES (Jan. 20, 2022), <https://www.forbes.com/sites/megandubois/2022/01/20/disney-announces-executives-for-its-disney-media-and-entertainment-segment/?sh=49a43e8c41f7>.

⁴⁴ See generally ESPN+, <https://plus.espn.com/> (scroll to the bottom of the page and click “Privacy Policy”); DISNEY+, <https://www.disneyplus.com/> (scroll to the bottom of the page and click “Privacy Policy”); HULU, <https://www.hulu.com/welcome> (scroll to the bottom of the page and click “Privacy Policy”).

⁴⁵ *Senior Content Acquisition Associate*, DISNEY CAREERS (Nov. 6, 2024), <https://www.disneycareers.com/en/job/-/senior-content-acquisition-associate/391/72473635376>.

169. As another example, The Walt Disney Company's website posted the following job application for a Sr Software Engineer, which states "This position is with Disney Streaming Technology LLC"⁴⁶

B. Certain Defendants Are Agents of One Another

170. Disney Media and Entertainment Distribution LLC is an agent of The Walt Disney Company.

171. Disney Platform Distribution, Inc. is an agent of The Walt Disney Company.

172. Disney Streaming Services LLC is an agent of The Walt Disney Company.

173. Disney Entertainment & Sports LLC is an agent of The Walt Disney Company.

174. Disney DTC LLC is an agent of The Walt Disney Company.

175. BAMTech, LLC is an agent of The Walt Disney Company.

176. Hulu, LLC is an agent of The Walt Disney Company.

177. ESPN, Inc. is an agent of The Walt Disney Company.

178. Disney Platform Distribution, Inc. is an agent of Disney Media and Entertainment Distribution LLC.

179. Disney Streaming Services LLC is an agent of Disney Media and Entertainment Distribution LLC.

180. Disney Entertainment & Sports LLC is an agent of Disney Media and Entertainment Distribution LLC.

⁴⁶ *Sr Software Engineer*, DISNEY CAREERS (Nov. 6, 2024), <https://www.disneycareers.com/en/job/-/sr-software-engineer/391/72137052336>.

181. Disney DTC LLC is an agent of Disney Media and Entertainment Distribution LLC.

182. BAMTech, LLC is an agent of Disney Media and Entertainment Distribution LLC.

183. Hulu, LLC is an agent of Disney Media and Entertainment Distribution LLC.

184. ESPN, Inc. is an agent of Disney Media and Entertainment Distribution LLC.

185. Disney Platform Distribution, Inc. is an agent of Disney Streaming Services LLC.

186. Disney Entertainment & Sports LLC is an agent of Disney Streaming Services LLC.

187. Disney DTC LLC is an agent of Disney Streaming Services LLC.

188. BAMTech, LLC is an agent of Disney Streaming Services LLC.

189. Hulu, LLC is an agent of Disney Streaming Services LLC.

190. ESPN, Inc. is an agent of Disney Streaming Services LLC.

191. Disney Platform Distribution, Inc. is an agent of Disney Entertainment & Sports LLC.

192. Disney DTC LLC is an agent of Disney Entertainment & Sports LLC.

193. BAMTech, LLC is an agent of Disney Entertainment & Sports LLC.

194. Hulu, LLC is an agent of Disney Entertainment & Sports LLC.

195. ESPN, Inc. is an agent of Disney Entertainment & Sports LLC.

196. BAMTech, LLC is an agent of ESPN, Inc.

C. The Walt Disney Company's Vicarious Liability

197. The Walt Disney Company directs and controls the actions and performance of Disney Media and Entertainment Distribution LLC, including those related to infringement of the Asserted Patents.

198. The Walt Disney Company conditions benefits derived by Disney Media and Entertainment Distribution LLC on the performance of activities, including those related to infringement of the Asserted Patents.

199. The Walt Disney Company specifies the timing and manner of the performance of activities by Disney Media and Entertainment Distribution LLC, including those related to infringement of the Asserted Patents.

200. The Walt Disney Company profits from the activities of Disney Media and Entertainment Distribution LLC.

201. The Walt Disney Company has the rights, powers, or abilities to cause Disney Media and Entertainment Distribution LLC to stop or limit its infringing activities.

202. The Walt Disney Company has not exercised its rights, powers, or abilities to cause Disney Media and Entertainment Distribution LLC to stop or limit its infringing activities.

203. The Walt Disney Company is vicariously liable for the infringing activities of Disney Media and Entertainment Distribution LLC.

204. The Walt Disney Company directs and controls the actions and performance of Disney Platform Distribution, Inc, including those related to infringement of the Asserted Patents.

205. The Walt Disney Company conditions benefits derived by Disney Platform Distribution, Inc. on the performance of activities, including those related to infringement of the Asserted Patents.

206. The Walt Disney Company specifies the timing and manner of the performance of activities by Disney Platform Distribution, Inc., including those related to infringement of the Asserted Patents.

207. The Walt Disney Company profits from the activities of Disney Platform Distribution, Inc.

208. The Walt Disney Company has the rights, powers, or abilities to cause Disney Platform Distribution, Inc. to stop or limit its infringing activities.

209. The Walt Disney Company has not exercised its rights, powers, or abilities to cause Disney Platform Distribution, Inc. to stop or limit its infringing activities.

210. The Walt Disney Company is vicariously liable for the infringing activities of Disney Platform Distribution, Inc.

211. The Walt Disney Company directs and controls the actions and performance of Disney Streaming Services LLC, including those related to infringement of the Asserted Patents.

212. The Walt Disney Company conditions benefits derived by Disney Streaming Services LLC on the performance of activities, including those related to infringement of the Asserted Patents.

213. The Walt Disney Company specifies the timing and manner of the performance of activities by Disney Streaming Services LLC, including those related to infringement of the Asserted Patents.

214. The Walt Disney Company profits from the activities of Disney Streaming Services LLC.

215. The Walt Disney Company has the rights, powers, or abilities to cause Disney Streaming Services LLC to stop or limit its infringing activities.

216. The Walt Disney Company has not exercised its rights, powers, or abilities to cause Disney Streaming Services LLC to stop or limit its infringing activities.

217. The Walt Disney Company is vicariously liable for the infringing activities of Disney Streaming Services LLC.

218. The Walt Disney Company directs and controls the actions and performance of Disney Entertainment & Sports LLC, including those related to infringement of the Asserted Patents.

219. The Walt Disney Company conditions benefits derived by Disney Entertainment & Sports LLC on the performance of activities, including those related to infringement of the Asserted Patents.

220. The Walt Disney Company specifies the timing and manner of the performance of activities by Disney Entertainment & Sports LLC, including those related to infringement of the Asserted Patents.

221. The Walt Disney Company profits from the activities of Disney Entertainment & Sports LLC.

222. The Walt Disney Company has the rights, powers, or abilities to cause Disney Entertainment & Sports LLC to stop or limit its infringing activities.

223. The Walt Disney Company has not exercised its rights, powers, or abilities to cause Disney Entertainment & Sports LLC to stop or limit its infringing activities.

224. The Walt Disney Company is vicariously liable for the infringing activities of Disney Entertainment & Sports LLC.

225. The Walt Disney Company directs and controls the actions and performance of Disney DTC LLC, including those related to infringement of the Asserted Patents.

226. The Walt Disney Company conditions benefits derived by Disney DTC LLC on the performance of activities, including those related to infringement of the Asserted Patents.

227. The Walt Disney Company specifies the timing and manner of the performance of activities by Disney DTC LLC, including those related to infringement of the Asserted Patents.

228. The Walt Disney Company profits from the activities of Disney DTC LLC.

229. The Walt Disney Company has the rights, powers, or abilities to cause Disney DTC LLC to stop or limit its infringing activities.

230. The Walt Disney Company has not exercised its rights, powers, or abilities to cause Disney DTC LLC to stop or limit its infringing activities.

231. The Walt Disney Company is vicariously liable for the infringing activities of Disney DTC LLC.

232. The Walt Disney Company directs and controls the actions and performance of BAMTech, LLC, including those related to infringement of the Asserted Patents.

233. The Walt Disney Company conditions benefits derived by BAMTech, LLC on the performance of activities, including those related to infringement of the Asserted Patents.

234. The Walt Disney Company specifies the timing and manner of the performance of activities by BAMTech, LLC, including those related to infringement of the Asserted Patents.

235. The Walt Disney Company profits from the activities of BAMTech, LLC.

236. The Walt Disney Company has the rights, powers, or abilities to cause BAMTech, LLC to stop or limit its infringing activities.

237. The Walt Disney Company has not exercised its rights, powers, or abilities to cause BAMTech, LLC to stop or limit its infringing activities.

238. The Walt Disney Company is vicariously liable for the infringing activities of BAMTech, LLC.

239. The Walt Disney Company directs and controls the actions and performance of Hulu, LLC, including those related to infringement of the Asserted Patents.

240. The Walt Disney Company conditions benefits derived by Hulu, LLC on the performance of activities, including those related to infringement of the Asserted Patents.

241. The Walt Disney Company specifies the timing and manner of the performance of activities by Hulu, LLC, including those related to infringement of the Asserted Patents.

242. The Walt Disney Company profits from the activities of Hulu, LLC.

243. The Walt Disney Company has the rights, powers, or abilities to cause Hulu, LLC to stop or limit its infringing activities.

244. The Walt Disney Company has not exercised its rights, powers, or abilities to cause Hulu, LLC to stop or limit its infringing activities.

245. The Walt Disney Company is vicariously liable for the infringing activities of Hulu, LLC.

246. The Walt Disney Company directs and controls the actions and performance of ESPN, Inc, including those related to infringement of the Asserted Patents.

247. The Walt Disney Company conditions benefits derived by ESPN, Inc. on the performance of activities, including those related to infringement of the Asserted Patents.

248. The Walt Disney Company specifies the timing and manner of the performance of activities by ESPN, Inc., including those related to infringement of the Asserted Patents.

249. The Walt Disney Company profits from the activities of ESPN, Inc.

250. The Walt Disney Company has the rights, powers, or abilities to cause ESPN, Inc. to stop or limit its infringing activities.

251. The Walt Disney Company has not exercised its rights, powers, or abilities to cause ESPN, Inc. to stop or limit its infringing activities.

252. The Walt Disney Company is vicariously liable for the infringing activities of ESPN, Inc.

D. Disney Media and Entertainment Distribution LLC's Vicarious Liability

253. Disney Media and Entertainment Distribution LLC directs and controls the actions and performance of Disney Platform Distribution, Inc, including those related to infringement of the Asserted Patents.

254. Disney Media and Entertainment Distribution LLC conditions benefits derived by Disney Platform Distribution, Inc. on the performance of activities, including those related to infringement of the Asserted Patents.

255. Disney Media and Entertainment Distribution LLC specifies the timing and manner of the performance of activities by Disney Platform Distribution, Inc., including those related to infringement of the Asserted Patents.

256. Disney Media and Entertainment Distribution LLC profits from the activities of Disney Platform Distribution, Inc.

257. Disney Media and Entertainment Distribution LLC has the rights, powers, or abilities to cause Disney Platform Distribution, Inc. to stop or limit its infringing activities.

258. Disney Media and Entertainment Distribution LLC has not exercised its rights, powers, or abilities to cause Disney Platform Distribution, Inc. to stop or limit its infringing activities.

259. Disney Media and Entertainment Distribution LLC is vicariously liable for the infringing activities of Disney Platform Distribution, Inc.

260. Disney Media and Entertainment Distribution LLC directs and controls the actions and performance of Disney Streaming Services LLC, including those related to infringement of the Asserted Patents.

261. Disney Media and Entertainment Distribution LLC conditions benefits derived by Disney Streaming Services LLC on the performance of activities, including those related to infringement of the Asserted Patents.

262. Disney Media and Entertainment Distribution LLC specifies the timing and manner of the performance of activities by Disney Streaming Services LLC, including those related to infringement of the Asserted Patents.

263. Disney Media and Entertainment Distribution LLC profits from the activities of Disney Streaming Services LLC.

264. Disney Media and Entertainment Distribution LLC has the rights, powers, or abilities to cause Disney Streaming Services LLC to stop or limit its infringing activities.

265. Disney Media and Entertainment Distribution LLC has not exercised its rights, powers, or abilities to cause Disney Streaming Services LLC to stop or limit its infringing activities.

266. Disney Media and Entertainment Distribution LLC is vicariously liable for the infringing activities of Disney Streaming Services LLC.

267. Disney Media and Entertainment Distribution LLC directs and controls the actions and performance of Disney Entertainment & Sports LLC, including those related to infringement of the Asserted Patents.

268. Disney Media and Entertainment Distribution LLC conditions benefits derived by Disney Entertainment & Sports LLC on the performance of activities, including those related to infringement of the Asserted Patents.

269. Disney Media and Entertainment Distribution LLC specifies the timing and manner of the performance of activities by Disney Entertainment & Sports LLC, including those related to infringement of the Asserted Patents.

270. Disney Media and Entertainment Distribution LLC profits from the activities of Disney Entertainment & Sports LLC.

271. Disney Media and Entertainment Distribution LLC has the rights, powers, or abilities to cause Disney Entertainment & Sports LLC to stop or limit its infringing activities.

272. Disney Media and Entertainment Distribution LLC has not exercised its rights, powers, or abilities to cause Disney Entertainment & Sports LLC to stop or limit its infringing activities.

273. Disney Media and Entertainment Distribution LLC is vicariously liable for the infringing activities of Disney Entertainment & Sports LLC.

274. Disney Media and Entertainment Distribution LLC directs and controls the actions and performance of Disney DTC LLC, including those related to infringement of the Asserted Patents.

275. Disney Media and Entertainment Distribution LLC conditions benefits derived by Disney DTC LLC on the performance of activities, including those related to infringement of the Asserted Patents.

276. Disney Media and Entertainment Distribution LLC specifies the timing and manner of the performance of activities by Disney DTC LLC, including those related to infringement of the Asserted Patents.

277. Disney Media and Entertainment Distribution LLC profits from the activities of Disney DTC LLC.

278. Disney Media and Entertainment Distribution LLC has the rights, powers, or abilities to cause Disney DTC LLC to stop or limit its infringing activities.

279. Disney Media and Entertainment Distribution LLC has not exercised its rights, powers, or abilities to cause Disney DTC LLC to stop or limit its infringing activities.

280. Disney Media and Entertainment Distribution LLC is vicariously liable for the infringing activities of Disney DTC LLC.

281. Disney Media and Entertainment Distribution LLC directs and controls the actions and performance of BAMTech, LLC, including those related to infringement of the Asserted Patents.

282. Disney Media and Entertainment Distribution LLC conditions benefits derived by BAMTech, LLC on the performance of activities, including those related to infringement of the Asserted Patents.

283. Disney Media and Entertainment Distribution LLC specifies the timing and manner of the performance of activities by BAMTech, LLC, including those related to infringement of the Asserted Patents.

284. Disney Media and Entertainment Distribution LLC profits from the activities of BAMTech, LLC.

285. Disney Media and Entertainment Distribution LLC has the rights, powers, or abilities to cause BAMTech, LLC to stop or limit its infringing activities.

286. Disney Media and Entertainment Distribution LLC has not exercised its rights, powers, or abilities to cause BAMTech, LLC to stop or limit its infringing activities.

287. Disney Media and Entertainment Distribution LLC is vicariously liable for the infringing activities of BAMTech, LLC.

288. Disney Media and Entertainment Distribution LLC directs and controls the actions and performance of Hulu, LLC, including those related to infringement of the Asserted Patents.

289. Disney Media and Entertainment Distribution LLC conditions benefits derived by Hulu, LLC on the performance of activities, including those related to infringement of the Asserted Patents.

290. Disney Media and Entertainment Distribution LLC specifies the timing and manner of the performance of activities by Hulu, LLC, including those related to infringement of the Asserted Patents.

291. Disney Media and Entertainment Distribution LLC profits from the activities of Hulu, LLC.

292. Disney Media and Entertainment Distribution LLC has the rights, powers, or abilities to cause Hulu, LLC to stop or limit its infringing activities.

293. Disney Media and Entertainment Distribution LLC has not exercised its rights, powers, or abilities to cause Hulu, LLC to stop or limit its infringing activities.

294. Disney Media and Entertainment Distribution LLC is vicariously liable for the infringing activities of Hulu, LLC.

295. Disney Media and Entertainment Distribution LLC directs and controls the actions and performance of ESPN, Inc, including those related to infringement of the Asserted Patents.

296. Disney Media and Entertainment Distribution LLC conditions benefits derived by ESPN, Inc. on the performance of activities, including those related to infringement of the Asserted Patents.

297. Disney Media and Entertainment Distribution LLC specifies the timing and manner of the performance of activities by ESPN, Inc., including those related to infringement of the Asserted Patents.

298. Disney Media and Entertainment Distribution LLC profits from the activities of ESPN, Inc.

299. Disney Media and Entertainment Distribution LLC has the rights, powers, or abilities to cause ESPN, Inc. to stop or limit its infringing activities.

300. Disney Media and Entertainment Distribution LLC has not exercised its rights, powers, or abilities to cause ESPN, Inc. to stop or limit its infringing activities.

301. Disney Media and Entertainment Distribution LLC is vicariously liable for the infringing activities of ESPN, Inc.

E. Disney Streaming Services LLC's Vicarious Liability

302. Disney Streaming Services LLC directs and controls the actions and performance of Disney Platform Distribution, Inc, including those related to infringement of the Asserted Patents.

303. Disney Streaming Services LLC conditions benefits derived by Disney Platform Distribution, Inc. on the performance of activities, including those related to infringement of the Asserted Patents.

304. Disney Streaming Services LLC specifies the timing and manner of the performance of activities by Disney Platform Distribution, Inc., including those related to infringement of the Asserted Patents.

305. Disney Streaming Services LLC profits from the activities of Disney Platform Distribution, Inc.

306. Disney Streaming Services LLC has the rights, powers, or abilities to cause Disney Platform Distribution, Inc. to stop or limit its infringing activities.

307. Disney Streaming Services LLC has not exercised its rights, powers, or abilities to cause Disney Platform Distribution, Inc. to stop or limit its infringing activities.

308. Disney Streaming Services LLC is vicariously liable for the infringing activities of Disney Platform Distribution, Inc.

309. Disney Streaming Services LLC directs and controls the actions and performance of Disney Entertainment & Sports LLC, including those related to infringement of the Asserted Patents.

310. Disney Streaming Services LLC conditions benefits derived by Disney Entertainment & Sports LLC on the performance of activities, including those related to infringement of the Asserted Patents.

311. Disney Streaming Services LLC specifies the timing and manner of the performance of activities by Disney Entertainment & Sports LLC, including those related to infringement of the Asserted Patents.

312. Disney Streaming Services LLC profits from the activities of Disney Entertainment & Sports LLC.

313. Disney Streaming Services LLC has the rights, powers, or abilities to cause Disney Entertainment & Sports LLC to stop or limit its infringing activities.

314. Disney Streaming Services LLC has not exercised its rights, powers, or abilities to cause Disney Entertainment & Sports LLC to stop or limit its infringing activities.

315. Disney Streaming Services LLC is vicariously liable for the infringing activities of Disney Entertainment & Sports LLC.

316. Disney Streaming Services LLC directs and controls the actions and performance of Disney DTC LLC, including those related to infringement of the Asserted Patents.

317. Disney Streaming Services LLC conditions benefits derived by Disney DTC LLC on the performance of activities, including those related to infringement of the Asserted Patents.

318. Disney Streaming Services LLC specifies the timing and manner of the performance of activities by Disney DTC LLC, including those related to infringement of the Asserted Patents.

319. Disney Streaming Services LLC profits from the activities of Disney DTC LLC.

320. Disney Streaming Services LLC has the rights, powers, or abilities to cause Disney DTC LLC to stop or limit its infringing activities.

321. Disney Streaming Services LLC has not exercised its rights, powers, or abilities to cause Disney DTC LLC to stop or limit its infringing activities.

322. Disney Streaming Services LLC is vicariously liable for the infringing activities of Disney DTC LLC.

323. Disney Streaming Services LLC directs and controls the actions and performance of BAMTech, LLC, including those related to infringement of the Asserted Patents.

324. Disney Streaming Services LLC conditions benefits derived by BAMTech, LLC on the performance of activities, including those related to infringement of the Asserted Patents.

325. Disney Streaming Services LLC specifies the timing and manner of the performance of activities by BAMTech, LLC, including those related to infringement of the Asserted Patents.

326. Disney Streaming Services LLC profits from the activities of BAMTech, LLC.

327. Disney Streaming Services LLC has the rights, powers, or abilities to cause BAMTech, LLC to stop or limit its infringing activities.

328. Disney Streaming Services LLC has not exercised its rights, powers, or abilities to cause BAMTech, LLC to stop or limit its infringing activities.

329. Disney Streaming Services LLC is vicariously liable for the infringing activities of BAMTech, LLC.

330. Disney Streaming Services LLC directs and controls the actions and performance of Hulu, LLC, including those related to infringement of the Asserted Patents.

331. Disney Streaming Services LLC conditions benefits derived by Hulu, LLC on the performance of activities, including those related to infringement of the Asserted Patents.

332. Disney Streaming Services LLC specifies the timing and manner of the performance of activities by Hulu, LLC, including those related to infringement of the Asserted Patents.

333. Disney Streaming Services LLC profits from the activities of Hulu, LLC.

334. Disney Streaming Services LLC has the rights, powers, or abilities to cause Hulu, LLC to stop or limit its infringing activities.

335. Disney Streaming Services LLC has not exercised its rights, powers, or abilities to cause Hulu, LLC to stop or limit its infringing activities.

336. Disney Streaming Services LLC is vicariously liable for the infringing activities of Hulu, LLC.

337. Disney Streaming Services LLC directs and controls the actions and performance of ESPN, Inc, including those related to infringement of the Asserted Patents.

338. Disney Streaming Services LLC conditions benefits derived by ESPN, Inc. on the performance of activities, including those related to infringement of the Asserted Patents.

339. Disney Streaming Services LLC specifies the timing and manner of the performance of activities by ESPN, Inc., including those related to infringement of the Asserted Patents.

340. Disney Streaming Services LLC profits from the activities of ESPN, Inc.

341. Disney Streaming Services LLC has the rights, powers, or abilities to cause ESPN, Inc. to stop or limit its infringing activities.

342. Disney Streaming Services LLC has not exercised its rights, powers, or abilities to cause ESPN, Inc. to stop or limit its infringing activities.

343. Disney Streaming Services LLC is vicariously liable for the infringing activities of ESPN, Inc.

F. Disney Entertainment & Sports LLC's Vicarious Liability

344. Disney Entertainment & Sports LLC directs and controls the actions and performance of Disney Platform Distribution, Inc., including those related to infringement of the Asserted Patents.

345. Disney Entertainment & Sports LLC conditions benefits derived by Disney Platform Distribution, Inc. on the performance of activities, including those related to infringement of the Asserted Patents.

346. Disney Entertainment & Sports LLC specifies the timing and manner of the performance of activities by Disney Platform Distribution, Inc., including those related to infringement of the Asserted Patents.

347. Disney Entertainment & Sports LLC profits from the activities of Disney Platform Distribution, Inc.

348. Disney Entertainment & Sports LLC has the rights, powers, or abilities to cause Disney Platform Distribution, Inc. to stop or limit its infringing activities.

349. Disney Entertainment & Sports LLC has not exercised its rights, powers, or abilities to cause Disney Platform Distribution, Inc. to stop or limit its infringing activities.

350. Disney Entertainment & Sports LLC is vicariously liable for the infringing activities of Disney Platform Distribution, Inc.

351. Disney Entertainment & Sports LLC directs and controls the actions and performance of Disney DTC LLC, including those related to infringement of the Asserted Patents.

352. Disney Entertainment & Sports LLC conditions benefits derived by Disney DTC LLC on the performance of activities, including those related to infringement of the Asserted Patents.

353. Disney Entertainment & Sports LLC specifies the timing and manner of the performance of activities by Disney DTC LLC, including those related to infringement of the Asserted Patents.

354. Disney Entertainment & Sports LLC profits from the activities of Disney DTC LLC.

355. Disney Entertainment & Sports LLC has the rights, powers, or abilities to cause Disney DTC LLC to stop or limit its infringing activities.

356. Disney Entertainment & Sports LLC has not exercised its rights, powers, or abilities to cause Disney DTC LLC to stop or limit its infringing activities.

357. Disney Entertainment & Sports LLC is vicariously liable for the infringing activities of Disney DTC LLC.

358. Disney Entertainment & Sports LLC directs and controls the actions and performance of BAMTech, LLC, including those related to infringement of the Asserted Patents.

359. Disney Entertainment & Sports LLC conditions benefits derived by BAMTech, LLC on the performance of activities, including those related to infringement of the Asserted Patents.

360. Disney Entertainment & Sports LLC specifies the timing and manner of the performance of activities by BAMTech, LLC, including those related to infringement of the Asserted Patents.

361. Disney Entertainment & Sports LLC profits from the activities of BAMTech, LLC.

362. Disney Entertainment & Sports LLC has the rights, powers, or abilities to cause BAMTech, LLC to stop or limit its infringing activities.

363. Disney Entertainment & Sports LLC has not exercised its rights, powers, or abilities to cause BAMTech, LLC to stop or limit its infringing activities.

364. Disney Entertainment & Sports LLC is vicariously liable for the infringing activities of BAMTech, LLC.

365. Disney Entertainment & Sports LLC directs and controls the actions and performance of Hulu, LLC, including those related to infringement of the Asserted Patents.

366. Disney Entertainment & Sports LLC conditions benefits derived by Hulu, LLC on the performance of activities, including those related to infringement of the Asserted Patents.

367. Disney Entertainment & Sports LLC specifies the timing and manner of the performance of activities by Hulu, LLC, including those related to infringement of the Asserted Patents.

368. Disney Entertainment & Sports LLC profits from the activities of Hulu, LLC.

369. Disney Entertainment & Sports LLC has the rights, powers, or abilities to cause Hulu, LLC to stop or limit its infringing activities.

370. Disney Entertainment & Sports LLC has not exercised its rights, powers, or abilities to cause Hulu, LLC to stop or limit its infringing activities.

371. Disney Entertainment & Sports LLC is vicariously liable for the infringing activities of Hulu, LLC.

372. Disney Entertainment & Sports LLC directs and controls the actions and performance of ESPN, Inc, including those related to infringement of the Asserted Patents.

373. Disney Entertainment & Sports LLC conditions benefits derived by ESPN, Inc. on the performance of activities, including those related to infringement of the Asserted Patents.

374. Disney Entertainment & Sports LLC specifies the timing and manner of the performance of activities by ESPN, Inc., including those related to infringement of the Asserted Patents.

375. Disney Entertainment & Sports LLC profits from the activities of ESPN, Inc.

376. Disney Entertainment & Sports LLC has the rights, powers, or abilities to cause ESPN, Inc. to stop or limit its infringing activities.

377. Disney Entertainment & Sports LLC has not exercised its rights, powers, or abilities to cause ESPN, Inc. to stop or limit its infringing activities.

378. Disney Entertainment & Sports LLC is vicariously liable for the infringing activities of ESPN, Inc.

G. ESPN, Inc.'s Vicarious Liability

379. ESPN, Inc. directs and controls the actions and performance of BAMTech, LLC, including those related to infringement of the Asserted Patents.

380. ESPN, Inc. conditions benefits derived by BAMTech, LLC on the performance of activities, including those related to infringement of the Asserted Patents.

381. ESPN, Inc. specifies the timing and manner of the performance of activities by BAMTech, LLC, including those related to infringement of the Asserted Patents.

382. ESPN, Inc. profits from the activities of BAMTech, LLC.

383. ESPN, Inc. has the rights, powers, or abilities to cause BAMTech, LLC to stop or limit its infringing activities.

384. ESPN, Inc. has not exercised its rights, powers, or abilities to cause BAMTech, LLC to stop or limit its infringing activities.

385. ESPN, Inc. is vicariously liable for the infringing activities of BAMTech, LLC.

H. Defendants' Actions to Induce Infringement

386. The Walt Disney Company induces end-user customers' infringement by offering for sale subscriptions to, selling subscriptions to, encouraging the download or access of, instructing on the use of, and encouraging the use of Disney+, Hulu, Hulu Live, and ESPN+.

387. Disney Media and Entertainment Distribution LLC induces end-user customers' infringement by offering for sale subscriptions to, selling subscriptions to, encouraging the download or access of, instructing on the use of, and encouraging the use of Disney+, Hulu, Hulu Live, and ESPN+.

388. Disney Platform Distribution, Inc. induces end-user customers' infringement by offering for sale subscriptions to, selling subscriptions to, encouraging the download or access of, instructing on the use of, and encouraging the use of Disney+, Hulu, Hulu Live, and ESPN+.

389. Disney Streaming Services LLC induces end-user customers' infringement by offering for sale subscriptions to, selling subscriptions to, encouraging the download or access of, instructing on the use of, and encouraging the use of Disney+, Hulu, Hulu Live, and ESPN+.

390. Disney Entertainment & Sports LLC induces end-user customers' infringement by offering for sale subscriptions to, selling subscriptions to, encouraging the download or access of, instructing on the use of, and encouraging the use of Disney+, Hulu, Hulu Live, and ESPN+.

391. Disney DTC LLC induces end-user customers' infringement by offering for sale subscriptions to, selling subscriptions to, encouraging the download or access of, instructing on the use of, and encouraging the use of Disney+, Hulu, Hulu Live, and ESPN+.

392. BAMTech, LLC induces end-user customers' infringement by offering for sale subscriptions to, selling subscriptions to, encouraging the download or access of, instructing on the use of, and encouraging the use of Disney+, Hulu, Hulu Live, and ESPN+.

393. Hulu, LLC induces end-user customers' infringement by offering for sale subscriptions to, selling subscriptions to, encouraging the download or access of, instructing on the use of, and encouraging the use of Disney+, Hulu, Hulu Live, and ESPN+.

394. ESPN, Inc. induces end-user customers' infringement by offering for sale subscriptions to, selling subscriptions to, encouraging the download or access of, instructing on the use of, and encouraging the use of Disney+, Hulu, Hulu Live, and ESPN+.

395. The Walt Disney Company induces infringement by Disney Media and Entertainment Distribution LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Disney+, Hulu, Hulu Live, and ESPN+.

396. The Walt Disney Company induces infringement by Disney Platform Distribution, Inc. by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Disney+, Hulu, Hulu Live, and ESPN+.

397. The Walt Disney Company induces infringement by Disney Streaming Services LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Disney+, Hulu, Hulu Live, and ESPN+.

398. The Walt Disney Company induces infringement by Disney Entertainment & Sports LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Disney+, Hulu, Hulu Live, and ESPN+.

399. The Walt Disney Company induces infringement by Disney DTC LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Disney+, Hulu, Hulu Live, and ESPN+.

400. The Walt Disney Company induces infringement by BAMTech, LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of ESPN+.

401. The Walt Disney Company induces infringement by Hulu, LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Hulu and Hulu Live.

402. The Walt Disney Company induces infringement by ESPN, Inc. by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of ESPN+.

403. Disney Media and Entertainment Distribution LLC induces infringement by Disney Platform Distribution, Inc. by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Disney+, Hulu, Hulu Live, and ESPN+.

404. Disney Media and Entertainment Distribution LLC induces infringement by Disney Streaming Services LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Disney+, Hulu, Hulu Live, and ESPN+.

405. Disney Media and Entertainment Distribution LLC induces infringement by Disney Entertainment & Sports LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Disney+, Hulu, Hulu Live, and ESPN+.

406. Disney Media and Entertainment Distribution LLC induces infringement by Disney DTC LLC by financing, supporting, encouraging, directing, controlling, and coordinating its

design, development, building, maintenance, testing, advertising, marketing, and/or operation of Disney+, Hulu, Hulu Live, and ESPN+.

407. Disney Media and Entertainment Distribution LLC induces infringement by BAMTech, LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of ESPN+.

408. Disney Media and Entertainment Distribution LLC induces infringement by Hulu, LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Hulu and Hulu Live.

409. Disney Media and Entertainment Distribution LLC induces infringement by ESPN, Inc. by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of ESPN+.

410. Disney Streaming Services LLC induces infringement by Disney Entertainment & Sports LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Disney+, Hulu, Hulu Live, and ESPN+.

411. Disney Streaming Services LLC induces infringement by Disney Platform Distribution, Inc. by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Disney+, Hulu, Hulu Live, and ESPN+.

412. Disney Streaming Services LLC induces infringement by Disney DTC LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design,

development, building, maintenance, testing, advertising, marketing, and/or operation of Disney+, Hulu, Hulu Live, and ESPN+.

413. Disney Streaming Services LLC induces infringement by BAMTech, LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of ESPN+.

414. Disney Streaming Services LLC induces infringement by Hulu, LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Hulu and Hulu Live.

415. Disney Streaming Services LLC induces infringement by ESPN, Inc. by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of ESPN+.

416. Disney Entertainment & Sports LLC induces infringement by Disney Platform Distribution, Inc. by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Disney+, Hulu, Hulu Live, and ESPN+.

417. Disney Entertainment & Sports LLC induces infringement by Disney DTC LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Disney+, Hulu, Hulu Live, and ESPN+.

418. Disney Entertainment & Sports LLC induces infringement by BAMTech, LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of ESPN+.

419. Disney Entertainment & Sports LLC induces infringement by Hulu, LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of Hulu and Hulu Live.

420. Disney Entertainment & Sports LLC induces infringement by ESPN, Inc. by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of ESPN+.

421. ESPN, Inc. induces infringement by BAMTech, LLC by financing, supporting, encouraging, directing, controlling, and coordinating its design, development, building, maintenance, testing, advertising, marketing, and/or operation of ESPN+.

422. ESPN, Inc. induces infringement by Hulu, LLC when it redirects users from the ESPN+ website to the Hulu website to purchase Hulu and Hulu Live subscriptions.

423. ESPN, Inc. induces infringement by The Walt Disney Company when it redirects users from the ESPN+ website to the Disney+ website to purchase Disney+, Hulu, and ESPN+ subscriptions.

424. ESPN, Inc. induces infringement by Disney Media and Entertainment Distribution LLC when it redirects users from the ESPN+ website to the Disney+ website to purchase Disney+, Hulu, and ESPN+ subscriptions.

425. ESPN, Inc. induces infringement by Disney Platform Distribution Inc. when it redirects users from the ESPN+ website to the Disney+ website to purchase Disney+, Hulu, and ESPN+ subscriptions.

426. ESPN, Inc. induces infringement by Disney Streaming Services LLC when it redirects users from the ESPN+ website to the Disney+ website to purchase Disney+, Hulu, and ESPN+ subscriptions.

427. ESPN, Inc. induces infringement by Disney Entertainment & Sports LLC when it redirects users from the ESPN+ website to the Disney+ website to purchase Disney+, Hulu, and ESPN+ subscriptions.

428. ESPN, Inc. induces infringement by Disney DTC LLC when it redirects users from the ESPN+ website to the Disney+ website to purchase Disney+, Hulu, and ESPN+ subscriptions.

429. ESPN, Inc. induces infringement by BAMTech, LLC when it offers to sell and sells ESPN+ subscriptions on the ESPN+ website.

430. Hulu LLC induces infringement by The Walt Disney Company when it offers to sell and sells Disney+, Hulu, and ESPN+ subscriptions on the Hulu website.

431. Hulu LLC induces infringement by Disney Media and Entertainment Distribution LLC when it offers to sell and sells Disney+, Hulu, and ESPN+ subscriptions on the Hulu website.

432. Hulu LLC induces infringement by Disney Platform Distribution Inc. when it offers to sell and sells Disney+, Hulu, and ESPN+ subscriptions on the Hulu website.

433. Hulu LLC induces infringement by Disney Streaming Services LLC when it offers to sell and sells Disney+, Hulu, and ESPN+ subscriptions on the Hulu website.

434. Hulu LLC induces infringement by Disney Entertainment & Sports LLC when it offers to sell and sells Disney+, Hulu, and ESPN+ subscriptions on the Hulu website.

435. Hulu LLC induces infringement by Disney DTC LLC when it offers to sell and sells Disney+, Hulu, and ESPN+ subscriptions on the Hulu website.

436. Hulu LLC induces infringement by BAMTech, LLC when it offers to sell and sells ESPN+ subscriptions on the Hulu website.

437. Hulu LLC induces infringement by ESPN Inc. when it offers to sell and sells ESPN+ subscriptions on the Hulu website.

438. The Walt Disney Company induces infringement by Hulu LLC when it offers to sell and sells Hulu subscriptions on the Disney+ website.

439. The Walt Disney Company induces infringement by ESPN Inc. when it offers to sell and sells ESPN+ subscriptions on the Disney+ website.

440. The Walt Disney Company induces infringement by BAMTech, LLC when it offers to sell and sells ESPN+ subscriptions on the Disney+ website.

441. Disney Media and Entertainment Distribution LLC induces infringement by Hulu LLC when it offers to sell and sells Hulu subscriptions on the Disney+ website.

442. Disney Media and Entertainment Distribution LLC induces infringement by ESPN Inc. when it offers to sell and sells ESPN+ subscriptions on the Disney+ website.

443. Disney Media and Entertainment Distribution LLC induces infringement by BAMTech, LLC when it offers to sell and sells ESPN+ subscriptions on the Disney+ website.

444. Disney Platform Distribution, Inc. induces infringement by Hulu LLC when it offers to sell and sells Hulu subscriptions on the Disney+ website.

445. Disney Platform Distribution, Inc. induces infringement by ESPN Inc. when it offers to sell and sells ESPN+ subscriptions on the Disney+ website.

446. Disney Platform Distribution, Inc. induces infringement by BAMTech, LLC when it offers to sell and sells ESPN+ subscriptions on the Disney+ website.

447. Disney Streaming Services LLC induces infringement by Hulu LLC when it offers to sell and sells Hulu subscriptions on the Disney+ website.

448. Disney Streaming Services LLC induces infringement by ESPN Inc. when it offers to sell and sells ESPN+ subscriptions on the Disney+ website.

449. Disney Streaming Services LLC induces infringement by BAMTech, LLC when it offers to sell and sells ESPN+ subscriptions on the Disney+ website.

450. Disney Entertainment & Sports LLC induces infringement by Hulu LLC when it offers to sell and sells Hulu subscriptions on the Disney+ website.

451. Disney Entertainment & Sports LLC induces infringement by ESPN Inc. when it offers to sell and sells ESPN+ subscriptions on the Disney+ website.

452. Disney Entertainment & Sports LLC induces infringement by BAMTech, LLC when it offers to sell and sells ESPN+ subscriptions on the Disney+ website.

453. Disney DTC LLC induces infringement by Hulu LLC when it offers to sell and sells Hulu subscriptions on the Disney+ website.

454. Disney DTC LLC induces infringement by ESPN Inc. when it offers to sell and sells ESPN+ subscriptions on the Disney+ website.

455. Disney DTC LLC induces infringement by BAMTech, LLC when it offers to sell and sells ESPN+ subscriptions on the Disney+ website.

456. The Walt Disney Company has notice of the Asserted Patents and Adeia's infringement allegations at least as of the filing of this Complaint.

457. Disney Media and Entertainment Distribution LLC has notice of the Asserted Patents and Adeia's infringement allegations at least as of the filing of this Complaint.

458. Disney Platform Distribution, Inc. has notice of the Asserted Patents and Adeia's infringement allegations at least as of the filing of this Complaint.

459. Disney Streaming Services LLC has notice of the Asserted Patents and Adeia's infringement allegations at least as of the filing of this Complaint.

460. Disney Entertainment & Sports LLC has notice of the Asserted Patents and Adeia's infringement allegations at least as of the filing of this Complaint.

461. Disney DTC LLC has notice of the Asserted Patents and Adeia's infringement allegations at least as of the filing of this Complaint.

462. BAMTech, LLC has notice of the Asserted Patents and Adeia's infringement allegations at least as of the filing of this Complaint.

463. Hulu, LLC has notice of the Asserted Patents and Adeia's infringement allegations at least as of the filing of this Complaint.

464. ESPN, Inc. has notice of the Asserted Patents and Adeia's infringement allegations at least as of the filing of this Complaint.

465. The Walt Disney Company took the above actions intending to cause infringing acts by others, and/or it willfully blinded itself as to the existence of the Asserted Patents and the Accused Instrumentalities' infringement thereof.

466. Disney Media and Entertainment Distribution LLC took the above actions intending to cause infringing acts by others, and/or it willfully blinded itself as to the existence of the Asserted Patents and the Accused Instrumentalities' infringement thereof.

467. Disney Platform Distribution, Inc. took the above actions intending to cause infringing acts by others, and/or it willfully blinded itself as to the existence of the Asserted Patents and the Accused Instrumentalities' infringement thereof.

468. Disney Streaming Services LLC took the above actions intending to cause infringing acts by others, and/or it willfully blinded itself as to the existence of the Asserted Patents and the Accused Instrumentalities' infringement thereof.

469. Disney Entertainment & Sports LLC took the above actions intending to cause infringing acts by others, and/or it willfully blinded itself as to the existence of the Asserted Patents and the Accused Instrumentalities' infringement thereof.

470. Disney DTC LLC took the above actions intending to cause infringing acts by others, and/or it willfully blinded itself as to the existence of the Asserted Patents and the Accused Instrumentalities' infringement thereof.

471. BAMTech, LLC took the above actions intending to cause infringing acts by others, and/or it willfully blinded itself as to the existence of the Asserted Patents and the Accused Instrumentalities' infringement thereof.

472. Hulu, LLC took the above actions intending to cause infringing acts by others, and/or it willfully blinded itself as to the existence of the Asserted Patents and the Accused Instrumentalities' infringement thereof.

473. ESPN, Inc. took the above actions intending to cause infringing acts by others, and/or it willfully blinded itself as to the existence of the Asserted Patents and the Accused Instrumentalities' infringement thereof.

COUNT 1: INFRINGEMENT OF U.S. PATENT NO. 9,762,639

474. Adeia incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

475. The '639 patent, entitled "Dynamic manifest generation based on client identity," issued on September 12, 2017, and names Albert J. McGowan and Michael M. Gordon as inventors. The '639 patent is attached as Exhibit A.

476. Adeia Media Holdings LLC owns all rights, title, and interest in the '639 patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

477. The '639 patent is valid and enforceable and directed to patentable subject matter.

478. As a matter of law, the notice provisions of 35 U.S.C. § 287 do not apply in this case for the '639 patent, and therefore Adeia has satisfied its obligations under 35 U.S.C. § 287 with respect to the '639 patent.

479. Streaming generally involves “chunking” the media file being streamed—dividing it up into smaller segments for delivery to user devices. These individual chunks may each be a few seconds long (*e.g.*, 3 to 10 seconds, depending on a variety of factors). The created chunks may be in a different format than the original media file. For example, they may have a different resolution or be encoded using a different codec. Not all chunk formats will be suitable for all user devices, depending on what resolutions and codecs the device supports, for example. Further, in order to enable adaptive streaming (*e.g.*, where the quality of the stream may be adapted during playback based on factors such as network traffic and client bandwidth), multiple versions of each chunk must be made available at different quality levels (*e.g.*, different bitrates). One or more index files or manifests are provided to the user device to provide it information about how to stream the content, such as information about where to locate the available chunks.

480. A traditional approach to preprocessing media for streaming involves chunking and storing media assets, then creating and storing corresponding static index files or manifests. The claimed inventions, however, improve on streaming technology by enabling the server to dynamically generate a manifest for a particular user at the time they request it. Consequently, different users can receive different manifests for the same content, which in turn makes different

chunks available to different users, such as chunks created using different chunking protocols. In some instances, dynamic manifest generation may also enable dynamic chunking of content. For example, the next chunk of media may not be cached at a location specified in a manifest, in which case the chunk may be dynamically created by pulling all or part of the media file of interest from a media file origin, chunking it, and making it available for download. The chunk also may be cached, thereby eliminating the need to create the chunk again if it is requested at some later time.

481. The claims here offer numerous technological advantages over the traditional approach, apart from reduced storage requirements and reduced preprocessing as discussed above. For example, by using dynamically generated manifests, a streaming service has more levers to control the flow of media. Manifest contents can be adjusted in real-time depending on user or network needs. The media stream can be tailored to best fit the particular user device and its characteristics: “Techniques can be dynamically executed on the fly and customized for each client.” ’639 patent 4:19–21.

482. Some streamed media is supported by ads, and ad content is typically stored separately from media content on the backend of the service. In addition, services often wish to show different or personalized ads to different users even when they are viewing the same media content. Dynamic manifest generation allows integration of ad content in a more customizable and tailored way.

483. While the inventions claimed in the ’639 patent represent an improvement over the prior art, the elements of each claim, considered alone and as an ordered combination, are also unconventional. For example, claim 8 of the ’639 patent sets forth a series of steps that allow a streaming service to account for device type and capability in dynamically generating manifests

that correspond to different chunking protocols, and these elements as claimed were not conventional, routine, or well-understood at the time of the invention.

484. In fact, the advance represented by the '639 patent was praised by the industry when it was introduced commercially. The '639 patent's patented technology was recognized for its ability to tailor content delivery on the fly, server-side, in real-time rather than hours. The technology was specifically acknowledged for rendering the distribution of content to any IP-enabled device less time consuming and less expensive, enabling content owners to cut cost and maximize profitability.⁴⁷

485. Hulu, LLC infringes one or more claims of the '639 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

486. Disney DTC LLC infringes one or more claims of the '639 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

487. Disney DTC LLC infringes one or more claims of the '639 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

⁴⁷ *Unicorn Media Enables Video Monetization For Screen Media's Popcornflix*, UNICORN MEDIA (Apr. 25, 2012), <https://www.prnewswire.com/news-releases/unicorn-media-enables-video-monetization-for-screen-medias-popcornflix-148861135.html>; *Unicorn Media Powers Ad Delivery to Mobile Devices for TidalTV*, UNICORN MEDIA (Nov. 29, 2011), <https://www.prnewswire.com/news-releases/unicorn-media-powers-ad-delivery-to-mobile-devices-for-tidaltv-134666098.html>.

488. Disney Entertainment & Sports LLC infringes one or more claims of the '639 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

489. Disney Entertainment & Sports LLC infringes one or more claims of the '639 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

490. Disney Streaming Services LLC infringes one or more claims of the '639 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

491. Disney Streaming Services LLC infringes one or more claims of the '639 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

492. Disney Platform Distribution, Inc. infringes one or more claims of the '639 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

493. Disney Platform Distribution, Inc. infringes one or more claims of the '639 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

494. Disney Media and Entertainment Distribution LLC infringes one or more claims of the '639 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

495. Disney Media and Entertainment Distribution LLC infringes one or more claims of the '639 patent by making, using, selling and/or offering to sell Disney+ in this District and

elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

496. The Walt Disney Company infringes one or more claims of the '639 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

497. The Walt Disney Company infringes one or more claims of the '639 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

498. Adeia provides the following explanation of infringement with regard to an exemplary claim compared to exemplary functionality. Adeia reserves the right to present additional or alternative explanations of infringement for the claim and functionalities identified below and for other claims and functionalities of the services.

499. Claim 8 of the '639 patent recites: "A method of streaming media via a data communications network, the method comprising." To the extent that this preamble is limiting, the Disney+ and Hulu services perform this element.

500. Disney+ is a media streaming service that delivers its content over the Internet.

501. Hulu is a media streaming service that delivers its content over the Internet.

502. Claim 8 of the '639 patent further recites: "receiving a universal source locator (URL) in a first request from a first client, wherein the URL includes information indicative of a requested media source." The Disney+ and Hulu services perform this element.

503. Disney+ receives a universal source locator (URL) in a first request from a first client (*e.g.*, a Disney+ app running on an iPad), wherein the URL includes information indicative of a requested media source.

504. Disney+ receives URLs in content requests. Those URLs include information that identifies Disney as the media source and/or that identifies a particular requested content item. In some instances, these URLs enable users to share links to particular content with other users, for example, via text message, email, or through social media.⁴⁸

505. Hulu receives a universal source locator (URL) in a first request from a first client (e.g., a Hulu app running on an iPad), wherein the URL includes information indicative of a requested media source.

506. Hulu receives URLs in content requests. Those URLs include information that identifies Hulu as the media source and/or that identifies a particular requested content item. In some instances, these URLs enable users to share links to particular content with other users, for example, via text message, email, or through social media,⁴⁹ or allow users to join a Watch Party.⁵⁰

507. Claim 8 of the '639 patent further recites: “determining an identity of the first client.” The Disney+ and Hulu services perform this element.

508. Disney+ determines the identity of the first client.

⁴⁸ See *Sharing Disney+ links on mobile*, DISNEY+ HELP CENTER, <https://help.disneyplus.com/article/disneyplus-en-us-sharing-content> (“Sharing a new TV series or movie recommendation is easy with the social sharing feature. Use your phone to send links from the Disney+ streaming library directly to your personal friends and family.”).

⁴⁹ See e.g., *Sharing Links on Mobile*, HULU HELP CENTER, <https://help.hulu.com/article/hulu-sharing-links> (“Recommending a new TV series or movie pick just got a whole lot easier. Share links from Hulu’s streaming library and Premium Add-ons that you subscribe to, right from your phone.”)

⁵⁰ See *Hulu Watch Party*, HULU HELP CENTER, <https://help.hulu.com/article/hulu-watch-party>.

509. For example, when the client running on a user device sends a request to Disney+ for information on how to stream the content item, that request's headers include information about the client, such as User-Agent information.

510. For example, the request headers may indicate that the first client is the Disney+ app running on an iPad.

511. Hulu determines the identity of the first client.

512. For example, when the client running on a user device sends a request to Hulu for information on how to stream the content item, that request's headers include information about the client, such as User-Agent information.

513. For example, the request headers may indicate that the first client is the Hulu app running on an iPad.

514. Claim 8 of the '639 patent further recites: "determining a first device type based on the identity of the first client." The Disney+ and Hulu services perform this element.

515. Disney+ determines a first device type based on the identity of the first client.

516. For example, Disney+ determines a variety of information about and attributes of the device, such as device manufacturer, device model, device operating system, supported codecs, supported resolutions, supported DRM systems and encryption modes, and applicable security level for content DRM systems, among other things.

517. Many of these attributes vary depending on the identity of the client running on the user device.

518. Hulu determines a first device type based on the identity of the first client.

519. For example, Hulu determines a variety of information about and attributes of the device, such as device manufacturer, device model, device operating system, supported codecs,

supported resolutions, supported DRM systems and encryption modes, and applicable security level for content DRM systems, among other things.

520. Many of these attributes vary depending on the identity of the client running on the user device.

521. Claim 8 of the '639 patent further recites: “based at least in part on the determination of the first device type, generating, with a processor, a first manifest having information for streaming one or more segments of the requested media source in accordance with a first chunking protocol via the data communications network.” The Disney+ and Hulu services perform this element.

522. Based at least in part on the determination of the first device type, Disney+ generates, with a processor, a first manifest having information for streaming one or more segments of the requested media source in accordance with a first chunking protocol via the data communications network.

523. After the client running on the user device sends a request to Disney+ for information on how to stream the content item, Disney+ generates and sends back a JavaScript Object Notation (“JSON”) manifest.

524. The JSON manifest includes information that allows the client to stream segments of the content item. For example, it includes a URL that can be used by the client to retrieve a master playlist for the content item.

525. That linked playlist includes video and audio stream formats appropriate for this client based in part on the device type.

526. For example, when the first client is the Disney+ app running on an iPad, Disney+ generates a JSON manifest that includes a master playlist URL. That linked master playlist

includes playlists for streams that include video segments that vary in duration and are encoded using the HEVC/H.265 codec and encrypted using Apple FairPlay DRM.

527. Based at least in part on the determination of the first device type, Hulu generates, with a processor, a first manifest having information for streaming one or more segments of the requested media source in accordance with a first chunking protocol via the data communications network.

528. After the client running on the user device sends a request to Hulu for information on how to stream the content item, Hulu generates and sends back a JavaScript Object Notation (“JSON”) manifest.

529. The JSON manifest includes information that allows the client to stream segments of the content item. For example, it includes a URL that can be used by the client to retrieve a master playlist or Media Presentation Description (“MPD”) for the content item.

530. That linked playlist or MPD includes video and audio stream formats appropriate for this client based in part on the device type.

531. For example, when the first client is the Hulu app running on an iPad, Hulu generates a JSON manifest that includes a master playlist URL. That linked master playlist includes playlists for streams that include video segments that are of a specified duration (*e.g.*, around 4 seconds), are encoded using the HEVC/H.265 codec, and encrypted using Apple FairPlay DRM.

532. Claim 8 of the ’639 patent further recites: “sending the first manifest to the first client.” The Disney+ and Hulu services perform this element.

533. Disney+ sends the first manifest to the first client.

534. Hulu sends the first manifest to the first client.

535. Claim 8 of the '639 patent further recites: “receiving the URL in a second request from a second client.” The Disney+ and Hulu services perform this element.

536. Disney+ receives the URL in a second request from a second client.

537. As described above, Disney+ receives URLs in content requests. Disney+ can receive the same URLs in content requests for the same media sources across multiple clients and device types.

538. For example, the second client issuing these requests may be Disney code running within a Chrome web browser running on a Windows PC accessing the Disney+ website.

539. Hulu receives the URL in a second request from a second client.

540. As described above, Hulu receives URLs in content requests. Hulu can receive the same URLs in content requests for the same media sources across multiple clients and device types.

541. For example, the second client issuing these requests may be Hulu code running within a Chrome web browser running on a Windows PC accessing the Hulu website.

542. Claim 8 of the '639 patent further recites: “determining an identity of the second client, the identity of the second client different from the identity of the first client.” The Disney+ and Hulu services perform this element.

543. Disney+ determines the identity of the second client, which is different from the identity of the first client.

544. When the client running on the user device sends a request to Disney+ for information on how to stream the content item, the request headers include information about the client, such as User-Agent information.

545. For example, the request headers may indicate that the second client is Disney code running within a Chrome web browser running on a Windows PC accessing the Disney+ website.

546. Hulu determines the identity of the second client, which is different from the identity of the first client.

547. When the client running on the user device sends a request to Hulu for information on how to stream the content item, the request headers include information about the client, such as User-Agent information.

548. For example, the request headers may indicate that the second client is Hulu code running within a Chrome web browser running on a Windows PC accessing the Hulu website.

549. Claim 8 of the '639 patent further recites: “determining a second device type based on the identity of the second client, the second device type different from the first device type.” The Disney+ and Hulu services perform this element.

550. Disney+ determines a second device type based on the identity of the second client, the second device type different from the first device type.

551. As discussed above, Disney+ determines a variety of information about and attributes of each device, such as device manufacturer, device model, device operating system, supported codecs, supported resolutions, supported DRM systems and encryption modes, and applicable security level for content DRM systems, among other things. Many of these attributes vary depending on the identity of the client running on the user device.

552. Hulu determines a second device type based on the identity of the second client, the second device type different from the first device type.

553. As discussed above, Hulu determines a variety of information about and attributes of each device, such as device manufacturer, device model, device operating system, supported

codecs, supported resolutions, supported DRM systems and encryption modes, and applicable security level for content DRM systems, among other things. Many of these attributes vary depending on the identity of the client running on the user device.

554. Claim 8 of the '639 patent further recites: “based at least in part on the determination of the second device type, generating, with the processor, a second manifest having information for streaming the one or more segments of the requested media source in accordance with a second chunking protocol via the data communications network, wherein content of the second manifest is different from content of the first manifest.” The Disney+ and Hulu services perform this element.

555. Based at least in part on the determination of the second device type, Disney+ generates, with the processor, a second manifest having information for streaming one or more segments of the requested media source in accordance with a second chunking protocol via the data communications network, and the content of the second manifest is different from the content of the first manifest.

556. As discussed above, after the client running on the user device sends a request to Disney+ for information on how to stream the content item, Disney+ generates and sends back a JSON manifest.

557. The JSON manifest includes information that allows the client to stream segments of the content item. For example, it includes a URL that can be used by the client to retrieve a master playlist for the content item.

558. That linked playlist includes only video and audio stream formats appropriate for this client based in part on the device type, resulting in the first and second clients receiving information about a different set of video segments for streaming the content.

559. The content of the second JSON manifest generated for the second client is different from the content of the first JSON manifest generated for the first client. For example, each contains different client, session, and/or user-specific information, as well as different master playlist URLs and/or parameters.

560. For example, when the second client is Disney code running within a Chrome web browser running on a Windows PC accessing the Disney+ website, Disney+ generates a JSON manifest that includes a master playlist URL. That linked master playlist includes playlists for streams that include video segments that have constant duration, are encoded using the AVC/H.264 codec, and are encrypted using Google Widevine DRM. This master playlist does not include playlists for streams that include video segments encoded using the HEVC/H.265 codec discussed above.

561. Based at least in part on the determination of the second device type, Hulu generates, with the processor, a second manifest having information for streaming one or more segments of the requested media source in accordance with a second chunking protocol via the data communications network, and the content of the second manifest is different from the content of the first manifest.

562. As discussed above, after the client running on the user device sends a request to Hulu for information on how to stream the content item, Hulu generates and sends back a JSON manifest.

563. The JSON manifest includes information that allows the client to stream segments of the content item. For example, it includes a URL that can be used by the client to retrieve a master playlist or Media Presentation Description (MPD) for the content item.

564. That linked playlist or MPD includes only video and audio stream formats appropriate for this client based in part on the device type, resulting in the first and second clients receiving information about a different set of video segments for streaming the content.

565. The content of the second JSON manifest generated for the second client is different from the content of the first JSON manifest generated for the first client. For example, each contains different client, session, and/or user-specific information, as well as different master playlist or MPD URLs and/or parameters.

566. For example, when the second client is Hulu code running within a Chrome web browser running on a Windows PC accessing the Hulu website, Hulu generates a JSON manifest that includes an MPD URL. That linked MPD includes adaptation sets for streams that include video segments that have a specified duration (*e.g.*, about 5 seconds) and are encoded using the AVC/H.264 codec and encrypted using Widevine DRM. This MPD does not include playlists for streams that include video segments encoded using the HEVC/H.265 codec discussed above.

567. Claim 8 of the '639 patent further recites: "sending the second manifest to the second client." The Disney+ and Hulu services perform this element.

568. Disney+ sends the second manifest to the second client.

569. Hulu sends the second manifest to the second client.

570. As described above, Defendants make, use, sell, and offer to sell the Hulu service.

571. In addition or in the alternative, Defendants direct or control the Hulu service customers' performance of one or more claimed steps of the '639 patent, condition the benefits of the Hulu service on the performance of those steps, and/or have the power, right, and ability to stop the performance of those steps but decline to do so, and instead profit from their performance. Defendants control access to the Hulu streaming service. Defendants thus condition their

customers' use and operation of the Hulu service in a way that would cause the performance of the claimed steps. Thus, the performance of the claimed steps is attributable to Defendants.

572. As described above, Defendants make, use, sell, and offer to sell the Disney+ service.

573. In addition or in the alternative, Defendants direct or control the Disney+ service customers' performance of one or more claimed steps of the '639 patent, condition the benefits of the Disney+ service on the performance of those steps, and/or have the power, right, and ability to stop the performance of those steps but decline to do so, and instead profit from their performance. Defendants control access to the Disney+ streaming service. Defendants thus condition their customers' use and operation of the Disney+ service in a way that would cause the performance of the claimed steps. Thus, the performance of the claimed steps is attributable to Defendants.

574. As described above, Defendants also test Disney+ and Hulu for development purposes and to ensure quality of service.

575. Accordingly, Defendants directly infringe, literally and/or under the doctrine of equivalents, the '639 patent under 35 U.S.C. § 271(a).

576. In addition, Defendants have indirectly infringed the '639 patent under 35 U.S.C. § 271(b).

577. Defendants have induced infringement by each other and others, such as their respective subsidiaries and end-user customers.

578. Defendants' advertising, sales, design, development, and/or technical materials related to operation of the Accused Instrumentalities contained and continue to contain instructions, directions, suggestions, and/or invitations that invite, entice, lead on, influence,

encourage, prevail on, move by persuasion, and/or cause its subsidiaries and customers to directly infringe at least one claim of the '639 patent, either literally or under the doctrine of equivalents.

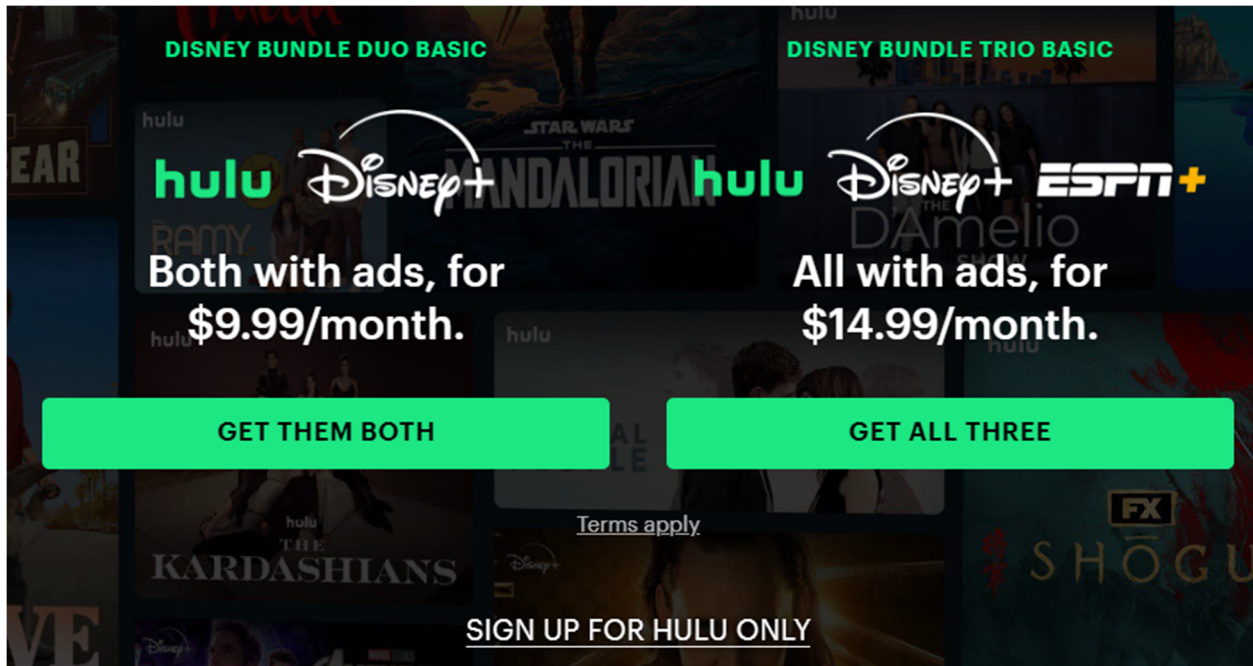
579. Additionally, Defendants have induced infringement by the Hulu service's end-user customers, for example, by implementing the infringing features in its Hulu service, encouraging its users to use that functionality within the United States, requiring its users to use the Hulu app or website in order to obtain the Hulu streaming service, and/or instructing, dictating, or training its customers to use the infringing features.

580. Additionally, Defendants have induced infringement by the Disney+ service's end-user customers, for example, by implementing the infringing features in its Disney+ service, encouraging its users to use that functionality within the United States, requiring its users to use the Disney+ app or website in order to obtain the Disney+ streaming service, and/or instructing, dictating, or training its customers to use the infringing features.

581. In addition, Defendants sell, offer to sell, advertise, invite, entice, lead on, influence, encourage, prevail on, move by persuasion, and/or cause customers to subscribe to Disney+ and Hulu.

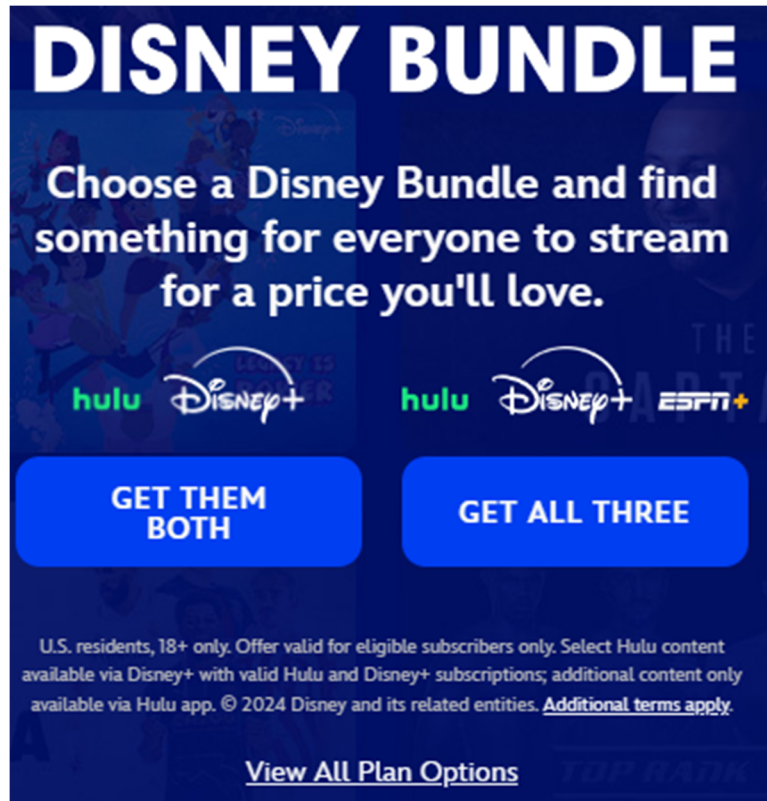
582. For example, Hulu directs potential customers looking to sign up for streaming services to information about Disney+, encourages customers to sign up for Disney+, and offers to provide discounted rates to customers that sign up for Disney+:⁵¹

⁵¹ HULU, <https://www.hulu.com/welcome>.



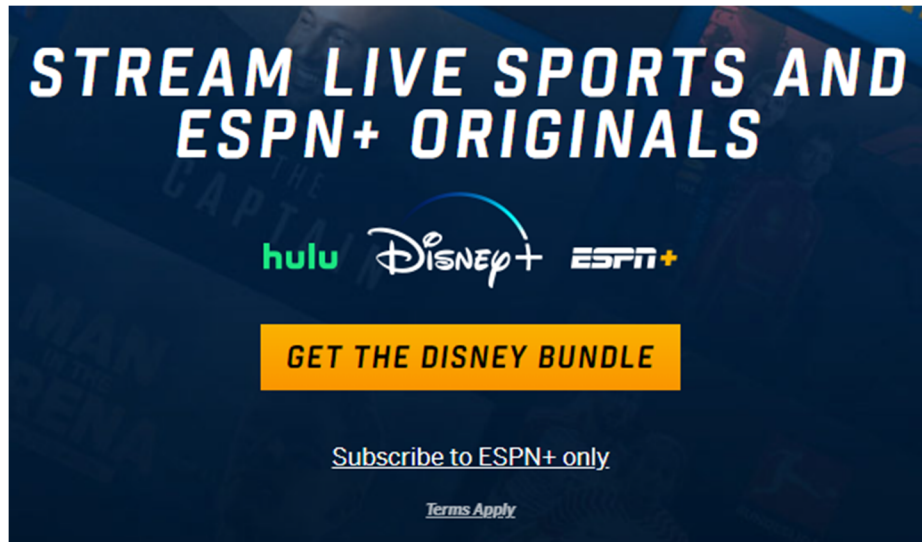
583. As another example, Disney+ directs potential customers looking to sign up for streaming services to information about Hulu, encourages customers to sign up for Hulu, and offers discounted rates to customers that sign up for Hulu.⁵²

⁵² *Disney Bundle*, DISNEY+, <https://www.disneyplus.com/welcome/disney-hulu-espn-bundle>.



584. In addition, ESPN+ directs potential customers looking to sign up for streaming services to information about the Hulu and Disney+ streaming services on its website, encourages potential customers to subscribe to Hulu and Disney+, and offers to provide discounted rates to customers that sign up for Disney+ and Hulu.⁵³

⁵³ ESPN+, <https://plus.espn.com/>.



585. Defendants took the above actions intending to cause infringing acts by others, and/or they willfully blinded themselves as to the existence of the Asserted Patent and the Accused Instrumentalities' infringement thereof.

586. Accordingly, Defendants have indirectly infringed the '639 patent under 35 U.S.C. § 271(b).

587. Defendants' acts of infringement have caused damage to Adeia. Adeia is entitled to recover from Defendants the damages sustained by Adeia as a result of their wrongful acts in an amount subject to proof at trial.

COUNT 2: INFRINGEMENT OF U.S. PATENT NO. 8,280,987

588. Adeia incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

589. The '987 patent, entitled "Cloud data persistence engine," issued on October 2, 2012, and names Albert J. McGowan and Richard L. Carls as inventors. The '987 patent is attached as Exhibit B.

590. Adeia Media Holdings LLC owns all rights, title, and interest in the '987 patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

591. The '987 patent is valid and enforceable and directed to patentable subject matter.

592. Adeia has complied with 35 U.S.C. § 287 with respect to the '987 patent.

593. Effectively and efficiently providing content to users across a large geographic area presents unique technological challenges. In a typical data hosting architecture, servers—each with the same content—would be deployed across a geographical area such that a user could connect to the server closest to it in terms of distance and access the same content as a user located elsewhere. While those arrangements allowed for quick access to data stored on a server, they also required that the same data be on each server when that may not be efficient. Moreover, data requested may vary by location, so if all data is maintained at every server, there is significant inefficiency presented by storing data that is infrequently, if at all, accessed. *See* '987 patent 1:17–37.

594. The '987 patent provides a solution to this problem. The inventors addressed these challenges in data networks by providing a “cloud data persistence” engine or system that allows the data objects served at each server to vary depending on the server’s client’s historical data requests. The efficiencies provided by the inventions are numerous:

For example, by storing only data objects that are frequently and/or recently accessed by clients, the servers may require significantly less storage space because they do not need to store a potentially large amount of data objects that are infrequently accessed or have not recently been accessed. A related benefit of this may be that by decreasing the amount of storage necessary at each server, the speed of access to the storage at the servers may be increased. For example, instead of relying on hard drives, solid state drives (which may cost significantly more per megabyte, but may offer improved access times) may be used for the storage at the servers.

'987 patent 4:64–5:5.

595. These advantages—reducing server storage space requirements, increasing the speed of access of server data (thereby decreasing latency at the client)—are particularly acute for live streaming-media content delivery. In order to stream content using adaptive streaming (*e.g.*, allowing video quality to vary during playback based on current conditions such as network traffic and client bandwidth), streaming services typically deliver manifests to clients that provide them with information about where to find the appropriate video segments. For live content, the future video segments may not yet exist and thus cannot be included in the manifest, meaning that updated manifests must be continually provided as the broadcast proceeds. Efficient manifest delivery is thus especially important in the live context because clients will need to receive updated manifests every few seconds (*e.g.*, every 3–10 seconds, depending on configurations) in order to locate the next segments/chunks of media content for playback. What is more, live transmissions are often of interest to particular geographic locations: generally, sporting events, for example, are most viewed in the regions that the sports teams hail from, and excess storage across every server in a network would be a poor use of resources.

596. Having servers connected in the way described in the claims further provides the benefit of efficient updating of data objects, which may include manifests or components of manifests:

In such instances, the modification to the data object (assuming the client has the appropriate access rights) may be routed to the data object origin server by a server receiving the request from the client. The modification may be applied to the relevant data at the data object origin server. The data object origin server may then send a notification to other servers, or only the cache servers that have the previous version of the data stored, that the previous version of the data is no longer valid. These servers may in turn send a notification to other associated servers, or only those servers that have the previous version of the data stored, that the previous version of the data object is no longer valid. This may prevent a client from receiving an out-of-date version of the data no matter which server is accessed by the client. The modified data residing at the origin

may then propagate out to the other servers as requests are made by clients to those servers for the data object.

'987 patent 5:37–51.

597. The backend architecture described in the specification also provides additional technological improvement:

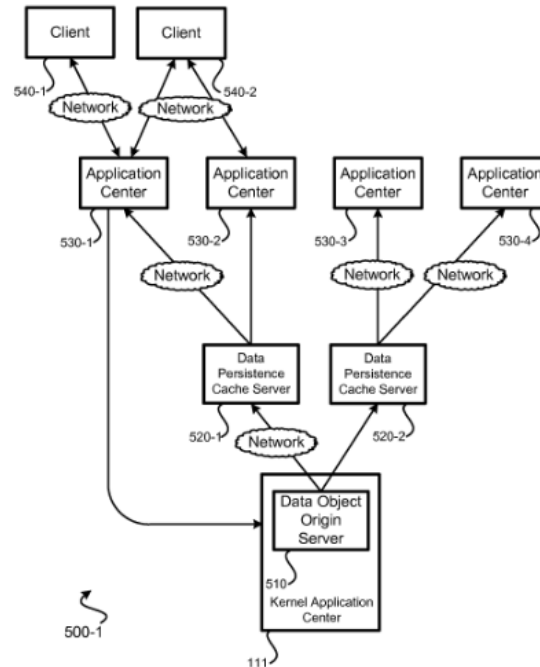


FIG. 5A

'987 patent Fig. 5A; *see also* '987 patent at 9:38–45 (“Important to note, data objects may be stored separate from media assets. For example, a data object containing information linked to a particular media asset may not be stored in the same location as the media asset. For example, a media asset may reside on multiple servers that are part of a content delivery network, while the data object that contains information about the media asset is stored in some other location, possibly on some other network.”).

598. That is further reflected in the claims: For example, claim 5 requires a first server in a first location with a plurality of data objects, each with a link to a media asset that is located

in a separate, second location distinct from the first location. This architecture—where data objects are separated from the media they point to—can provide significant technical benefits. Because manifest requests and video segment requests from a client are received separately, separating the manifest generation system from other systems that handle video segments allows for the manifest generation system to be better optimized for its function. And “the system’s modularity enables it to be scaled to accommodate differing hardware capacities, and because the system can be configured to dynamically allocate hardware to different services according to the needs of the system, the speed of completing tasks relating to a particular event can further be increased.” *Id.* at 8:56–61.

599. And the components of the claims, too, are unconventional, non-routine, and not well-understood, both individually and considered as an ordered combination. For example, claim 5 recites a specific and unconventional architecture requiring numerous servers connected in a specific way and each performing specific tasks to enable the operation of the overall system.

600. Hulu, LLC infringes one or more claims of the '987 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

601. Disney DTC LLC infringes one or more claims of the '987 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

602. Disney Entertainment & Sports LLC infringes one or more claims of the '987 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

603. Disney Streaming Services LLC infringes one or more claims of the '987 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

604. Disney Platform Distribution, Inc. infringes one or more claims of the '987 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

605. Disney Media and Entertainment Distribution LLC infringes one or more claims of the '987 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

606. The Walt Disney Company infringes one or more claims of the '987 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

607. Adeia provides the following explanation of infringement with regard to an exemplary claim compared to exemplary functionality. Adeia reserves the right to present additional or alternative explanations of infringement for the claim and functionalities identified below and for other claims and functionalities of the services.

608. Claim 5 of the '987 patent recites: "A cloud data persistence system for distribution of data, the cloud data persistence system comprising." To the extent that this preamble is limiting, the Hulu Live service meets this element.

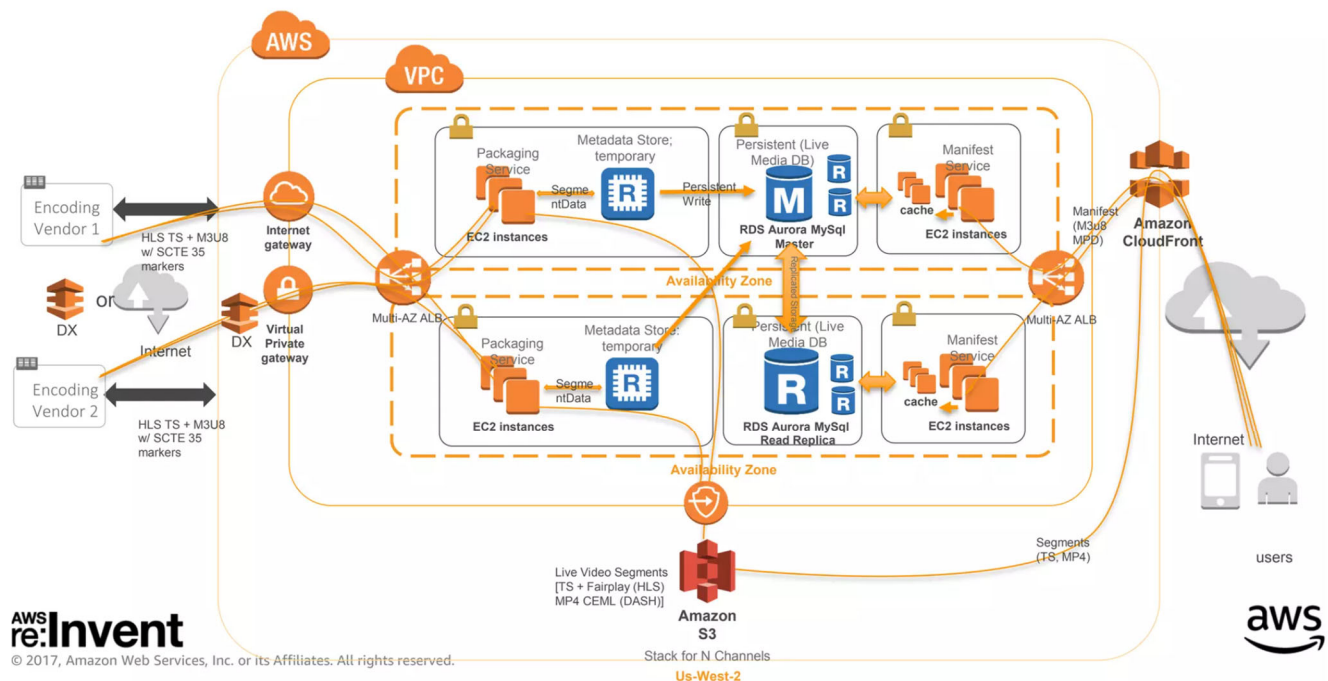
609. Hulu Live includes a cloud data persistence system for the distribution of data.

610. For example, Hulu Live uses a cloud-based architecture that includes data storage at various points in the system to distribute live media content and associated manifests and metadata.

611. Claim 5 of the '987 patent further recites: “a first server which stores a first plurality of data objects and is communicatively coupled with a second server and a third server, wherein.” The Hulu Live service meets this element.

612. Hulu Live includes a first server which stores a first plurality of data objects and is communicatively coupled with a second server and a third server.

AWS Architecture to support Live TV backend



613. For example, and as shown in the above image,⁵⁴ Hulu Live includes a manifest generation service and associated data storage which contains the generated manifests and/or the component metadata from which the manifests are generated. The generated manifests provide information to client devices about how to play live media content and include links pointing to the locations of video segments that can be streamed to the client device.

614. As shown in the above image, Hulu Live ingests and repackages encoded live streaming content from its encoding vendors in HLS and DASH segments. From the metadata associated with the HLS and DASH segments, Hulu continuously generates manifests that are placed in storage separate from the HLS or DASH segments (*e.g.*, Manifest Service and/or RDS Aurora).

615. At times, and as shown in the above image, Hulu Live's manifest generation service/storage is in direct communication with servers in at least one Content Delivery Network ("CDN"), which includes multiple servers (*e.g.*, multiple CDN regional servers).

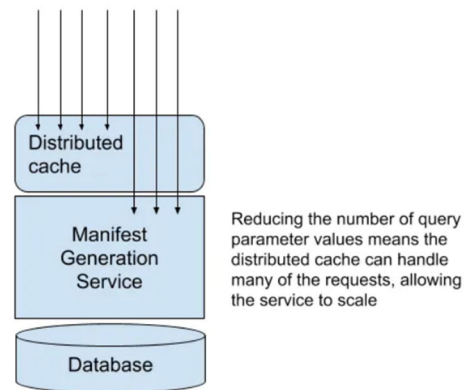
616. Hulu Live also includes, or has included, a distributed cache in front of and in communication with its manifest generation and storage. With distributed caching, the relevant cache is distributed across multiple servers or machines.

617. A Hulu Tech blog post⁵⁵ discusses this distributed caching method below:

⁵⁴ *Case Study: How Hulu reinvented television using the AWS Cloud – CTD302 – re:Invent 2017*, SLIDESHARE (Dec. 14, 2017), <https://www.slideshare.net/slideshow/case-study-how-hulu-reinvented-television-using-the-aws-cloud-ctd302-reinvent-2017/84049870>; *AWS re:Invent 2017: Case Study: How Hulu reinvented television using the AWS Cloud*, YOUTUBE (Nov. 29, 2017), <https://www.youtube.com/watch?v=US2x6CaIT7Y>.

⁵⁵ Hulu Tech, *Scaling Hulu Live Streaming for Large Events: March Madness and Beyond*, MEDIUM (Apr. 18, 2018), <https://medium.com/hulu-tech-blog/scaling-hulu-live-streaming-for-large-events-march-madness-and-beyond-bedd73874f2>.

For example, as we dove into the video playback area we realized that our manifest generator was in the linear scaling category (A). Generating manifests is such a critical part of our service — this tells each client device what live TV content to show every ten seconds or so — that we needed to engineer a more efficient approach. The team found that by reducing the number and variability of query parameters to the service, they were able to put a distributed Varnish cache in front of it. This reduced the scaling category down from A to C.



618. Claim 5 of the '987 patent further recites: “the first server is located at a first location; each of the first plurality of data objects comprises a link to a media asset of a plurality of media assets; the plurality of media assets is located at a second location; and the second location is distinct from the first location.” The Hulu Live service meets this element.

619. The first server in Hulu Live is located at a first location. Each of the first plurality of data objects comprises a link to a media asset of a plurality of media assets. The plurality of media assets is located at a second location. The second location is distinct from the first location.

620. For example, as discussed above, from the metadata associated with the HLS and DASH segments, Hulu continuously generates manifests that are placed in persistent storage (*e.g.*, Manifest Service and/or RDS Aurora).

621. The generated manifests include links pointing to the locations of video segments for live content that can be streamed to the client device.

622. The video segments are not stored within the manifest generation service/storage. Rather, the video segments are stored in a second, distinct location. For example, the video segments are published to a separate object storage service or content delivery network (*e.g.*, Amazon S3 or Akamai).

623. Claim 5 of the '987 patent further recites: “the second server stores a second plurality of data objects and is configured to request a data object from the first server if the data object is not present in the second plurality of data objects, wherein the second server is communicatively coupled with a fourth server and fifth server.” The Hulu live service meets this element.

624. The second server in Hulu Live stores a second plurality of data objects and is configured to request a data object from the first server if the data object is not present in the second plurality of data objects. The second server is communicatively coupled with a fourth server and fifth server.

625. For example, Hulu Live includes, or has included, a distributed cache in front of and in communication with its manifest generation and storage. Each server in the distributed cache contains a subset of the generated manifests and is communicatively coupled to multiple CDN servers (*e.g.*, multiple edge servers).

626. When one of the distributed cache servers does not store a manifest requested from a CDN edge server, the distributed cache server requests that manifest from the manifest generation service/storage.

627. As another example, Hulu Live includes multiple CDN servers directly connected to the manifest generation service/storage, such as multiple CDN regional servers.

628. Each CDN regional server includes a cache that stores a subset of the generated manifests and is communicatively coupled to multiple other CDN servers (*e.g.*, multiple edge servers).

629. When one of the CDN regional servers does not store a manifest requested from a CDN edge server (discussed further below), the CDN regional server requests that manifest from the manifest generation service/storage.

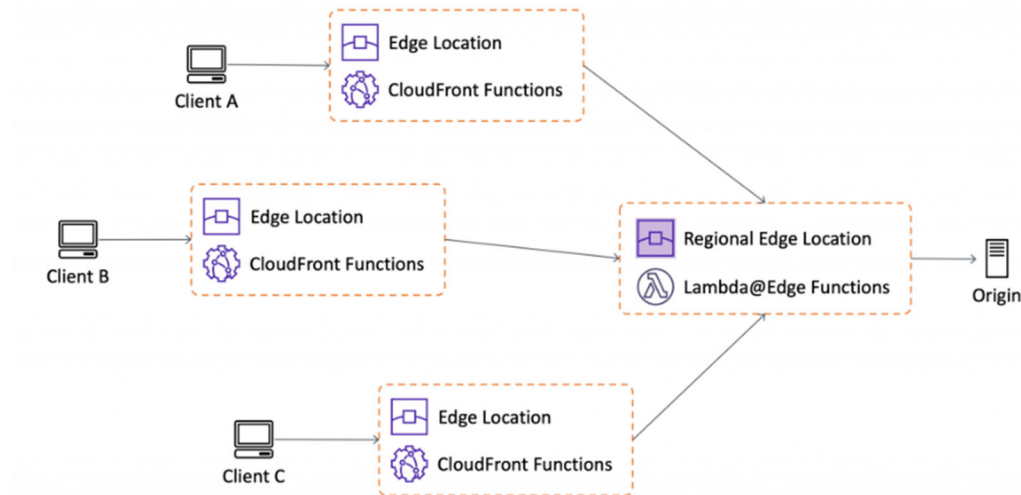
630. Hulu uses or has used multiple CDN providers, including at least Amazon CloudFront and Akamai.

631. AWS's website boasts that it has over 600 Points of Presence or POPs—which may each contain multiple servers—and 13 regional edge servers.⁵⁶

632. AWS provides the below diagram of this structure.⁵⁷

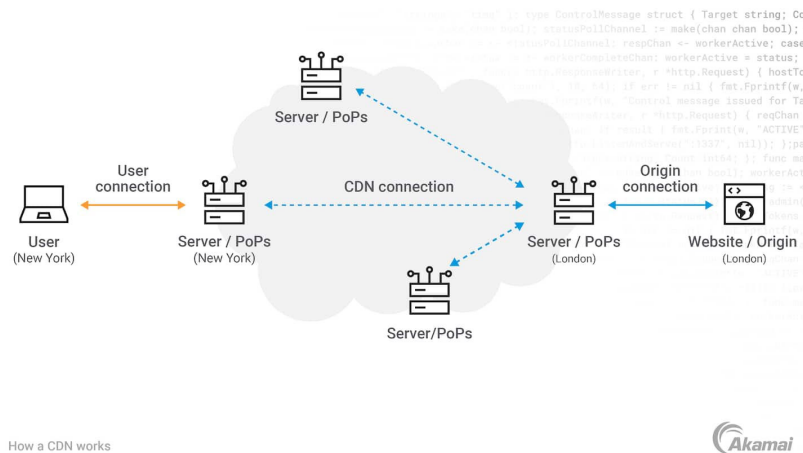
⁵⁶ *AWS Global Infrastructure*, AWS, <https://aws.amazon.com/about-aws/global-infrastructure/>.

⁵⁷ Danilo Poccia, *Introducing CloudFront Functions – Run Your Code at the Edge with Low Latency at Any Scale*, AWS NEWS BLOG (May 3, 2021), <https://aws.amazon.com/blogs/aws/introducing-cloudfront-functions-run-your-code-at-the-edge-with-low-latency-at-any-scale/>.



633. Akamai, another CDN provider for Hulu Live, depicts a similar structure below.⁵⁸

As of March 2023, Akamai operated over 365,000 servers.



634. Claim 5 of the '987 patent further recites: “the fourth server stores a third plurality of data objects and is configured to request the data object from the second server if the data object

⁵⁸ Akamai, *Overview of Akamai’s Personal Data Processing Activities and Roles in connection with Services Provisioning* (last updated March 2023), <https://www.akamai.com/site/en/documents/akamai/overview-of-akamai-personal-data-processing-activities-and-role.pdf>.

is not present in the third plurality of data objects, wherein the fourth server is configured to receive a request from a first client for the data object.” The Hulu Live service meets this element.

635. The fourth server in Hulu Live stores a third plurality of data objects and is configured to request the data object from the second server if the data object is not present in the third plurality of data objects. The fourth server in Hulu Live is configured to receive a request from a first client for the data object.

636. For example, the CDN edge servers in Hulu Live receive requests from clients, such as the Hulu app running on user devices, for manifests to be used to play live content.

637. Hulu uses or has used multiple CDN providers, including at least Amazon CloudFront and Akamai. See above for exemplary images of these CDN providers’ structures.

638. Each CDN edge server includes a cache that stores a subset of the generated manifests and is communicatively coupled to multiple other servers (*e.g.*, multiple CDN regional servers and/or distributed cache servers).

639. When one of the CDN edge servers does not store a manifest requested by a client, the CDN edge server requests that manifest from a CDN regional server and/or a distributed cache server.

640. As described above, Defendants make, use, sell, and offer to sell the Hulu Live service.

641. As described above, Defendants also test the Hulu Live service for development purposes and to ensure quality of service.

642. In addition or in the alternative, Defendants direct or control the Hulu Live service customers’ performance of one or more claimed steps of the ’987 patent, condition the benefits of the Hulu Live service on the performance of those steps, and/or have the power, right, and ability

to stop the performance of those steps but decline to do so, and instead profit from their performance. Defendants control access to the Hulu Live streaming service. Defendants thus condition their customers' use and operation of the Hulu Live service in a way that would cause the performance of the claimed steps. Thus, the performance of the claimed steps is attributable to the Hulu Defendants.

643. In addition or in the alternative, Defendants direct or control their third-party cloud service and CDN providers' performance of those steps and/or have the power, right, and ability to stop the performance of those steps but decline to do so, and instead profit from their performance. Thus, the performance of the claimed steps is attributable to Defendants.

644. In addition, Defendants have indirectly infringed the '987 patent under 35 U.S.C. § 271(b).

645. Defendants have induced infringement by each other and others, such as their respective subsidiaries, the Hulu Live service's CDN providers, cloud service providers, and end-user customers.

646. Defendants' advertising, sales, design, development, and/or technical materials related to operation of the Accused Instrumentalities contained and continue to contain instructions, directions, suggestions, and/or invitations that invite, entice, lead on, influence, encourage, prevail on, move by persuasion, and/or cause its subsidiaries and customers to directly infringe at least one claim of the '987 patent, either literally or under the doctrine of equivalents.

647. Additionally, Defendants have induced infringement by the Hulu Live service's end-user customers, for example, by implementing the infringing features in its Hulu live service, encouraging its users to use that functionality within the United States, requiring its users to use

the Hulu app or website in order to obtain the Hulu streaming service, and/or instructing, dictating, or training its customers to use the infringing features.

648. Furthermore, Defendants have induced infringement by the Hulu Live service's cloud service providers and CDN providers, for example, by paying for their services and instructing, directing, and/or suggesting those providers to arrange and employ their servers in an infringing manner.

649. In addition, Defendants sell, offer to sell, advertise, invite, entice, lead on, influence, encourage, prevail on, move by persuasion, and/or cause customers to subscribe to Hulu Live.

650. For example, ESPN+ directs potential customers looking to sign up for streaming services to information about the Hulu Live service on its website and encourages potential customers to subscribe to Hulu Live.⁵⁹



HULU + LIVE TV

Hulu has Live Sports! Watch NFL games and College Football all season long. Get 90+ live channels like ESPN and get access to Hulu's entire streaming library, Disney+, and ESPN+ all in one plan.

[LEARN MORE](#)

⁵⁹ See ESPN+, <https://plus.espn.com/> (“HULU + LIVE TV: Hulu has Live Sports! Watch NFL games and College Football all season long. Get 90+ live channels like ESPN and get access to Hulu’s entire streaming library, Disney+, and ESPN+ all in one plan.”).

651. Similarly, Disney+ directs potential customers looking to sign up for streaming services to information about the Hulu Live service on its website and encourages potential customers to subscribe to Hulu Live.⁶⁰

652. Defendants took the above actions intending to cause infringing acts by others, and/or they willfully blinded themselves as to the existence of the Asserted Patent and the Accused Instrumentalities' infringement thereof.

653. Accordingly, Defendants have indirectly infringed the '987 patent under 35 U.S.C. § 271(b) with respect to Hulu Live.

654. Defendants' acts of infringement have caused damage to Adeia. Adeia is entitled to recover from Defendants the damages sustained by Adeia as a result of their wrongful acts in an amount subject to proof at trial.

COUNT 3: INFRINGEMENT OF U.S. PATENT NO. 9,860,595

655. Adeia incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

656. The '595 patent, entitled "Systems and methods for episode tracking in an interactive media environment," issued on January 2, 2018, and names as inventors Charles Cordray, Todd A. Walker, and Samir B. Armaly. The '595 patent is attached as Exhibit C.

⁶⁰ See *Disney Bundle*, DISNEY+, <https://www.disneyplus.com/welcome/disney-hulu-espn-bundle> ("The Hulu + Live TV plans include 95+ live TV channels and additional on-demand content from your favorite sports, entertainment, and news channels you can watch at home or on-the-go. You will also get access to the content from Disney+, Hulu and ESPN+ streaming libraries. Access content from each service separately. Learn more and sign up here.") (linking to <https://www.hulu.com/live-tv>).

657. Adeia Guides Inc. owns all rights, title, and interest in the '595 patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

658. The '595 patent is valid and enforceable and directed to patentable subject matter.

659. As a matter of law, the notice provisions of 35 U.S.C. § 287 do not apply in this case for the '595 patent, and therefore Adeia has satisfied its obligations under 35 U.S.C. § 287 with respect to the '595 patent.

660. The '595 patent relates to interactive media environments that enable users to effectively interact with video-on-demand and streaming services. In the 2000s, streaming services were not as ubiquitous as they are today. Before the advent of certain video-on-demand and digital video recording systems (DVR), users were less likely to become disconnected from the rigid broadcast schedules that governed media content delivery. Then-known interactive media environments did not track or report a user's progress through a broadcast television series or movie sequels. '595 patent at 1:18–2:23.

661. A challenge particular to the content-streaming context, streaming services needed to provide the user with the ability to restart the data transmission from where the user left off, but that task was particularly complicated where the media was not stored locally on the user's device and required network-access links. The patent was tuned to solve that problem: It provides a method for presenting media content where progress is saved and stored; user selectable links are then generated that correspond to the relevant progress points within serialized programs, and selection of those links resumes media transmission from the progress point. The typical media streaming systems and methods at the time would not have included an interface with selectable links to transport the user back into the progress point within media content, and the inventions of

the '595 patent enabled a computer to do something it did not before: access a previous progress point in streamed media content directly, avoiding the user's labor of having to find the progress point themselves or the user's exposure to incorrect or spoiler-containing content.

662. In addition, the use of the claimed user profiles storing progress points in combination with the generation of links corresponding to the stored progress points enables the user to seamlessly switch between streaming on different devices, picking up the content where she left off when watching on a different device. As the specification explains, "a user's media profile may be portable to any user equipment in the interactive media system." '595 patent at 2:57–59.

663. The inventions offer a new way to interact with content in the streaming context with definite technological benefits. For example, by enabling the resumption of content streaming from specific content progress points, bandwidth usage is both decreased and optimized. Video streaming requires significant data transmission, and obviating the need for users to download excessive content as they track through and skip around in programs to find their progress points is a significant network benefit facilitated by the inventions. Streaming content is served remotely with less burden on the network.

664. The claims of the '595 patent also present an advance in computer interfaces that optimizes the presentation of information to users, avoiding presenting incorrect or spoiler content to users while permitting them to resume transmission of media from recorded progress points. The inventions claimed generate user profiles to provide a tailored user-interface experience, and those tailored solutions change and improve the capability of computer systems.

665. The claims of the '595 patent enable streaming with an improved user interface on devices with display constraints, providing interactive media guidance that allows users to

efficiently resume playback at a progress point via a selectable link, rather than navigating through large volumes of available media. Moreover, user selectable links reflecting the progress of the user in two different serial programs are displayed adjacent to one another in the interface, allowing for further ease of access. The invention claimed generates user profiles to provide a tailored user-interface experience, and those tailored solutions change and improve the capability of computer systems. “With the advent of the Internet, mobile computing, and high-speed wireless networks, users are able to access media on personal computers (PCs) and devices on which they traditionally could not.” ’595 patent at 4:19–23. “[M]edia guidance [was] also necessary on modern non-television-centric platforms. For example, media guidance applications may be provided as on-line applications (i.e., provided on a web-site), or as stand-alone applications or clients on hand-held computers, personal digital assistants (PDAs) or cellular telephones.” *Id.* at 4:28–33. Those devices, however, presented particular challenges to user interfaces, as the content provider had to adjust for limited screen real estate and input constraints in developing an effective user interface. The inventions enabled streaming on new types of devices via Internet delivery offering dynamic interfaces that provided a consistent, tailored, and efficient user experience across devices of various specifications, *e.g.*, TVs with only a remote control, mobile devices with small screens and limited/no keyboards, etc.

666. Moreover, the components recited in the claims are unconventional, non-routine, and were not well-understood at the time of the invention, either considered alone or as an ordered combination.

667. Hulu, LLC infringes one or more claims of the ’595 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

668. ESPN, Inc. infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell ESPN+ in this District and elsewhere in the United States, and/or importing ESPN+ into this District and elsewhere in the United States.

669. BAMTech, LLC infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell ESPN+ in this District and elsewhere in the United States, and/or importing ESPN+ into this District and elsewhere in the United States.

670. Disney DTC LLC infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

671. Disney DTC LLC infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

672. Disney Entertainment & Sports LLC infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

673. Disney Entertainment & Sports LLC infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

674. Disney Entertainment & Sports LLC infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell ESPN+ in this District and elsewhere in the United States, and/or importing ESPN+ into this District and elsewhere in the United States.

675. Disney Streaming Services LLC infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

676. Disney Streaming Services LLC infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

677. Disney Streaming Services LLC infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell ESPN+ in this District and elsewhere in the United States, and/or importing ESPN+ into this District and elsewhere in the United States.

678. Disney Platform Distribution, Inc. infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

679. Disney Platform Distribution, Inc. infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

680. Disney Platform Distribution, Inc. infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell ESPN+ in this District and elsewhere in the United States, and/or importing ESPN+ into this District and elsewhere in the United States.

681. Disney Media and Entertainment Distribution LLC infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

682. Disney Media and Entertainment Distribution LLC infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell Disney+ in this District and

elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

683. Disney Media and Entertainment Distribution LLC infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell ESPN+ in this District and elsewhere in the United States, and/or importing ESPN+ into this District and elsewhere in the United States.

684. The Walt Disney Company infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

685. The Walt Disney Company infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

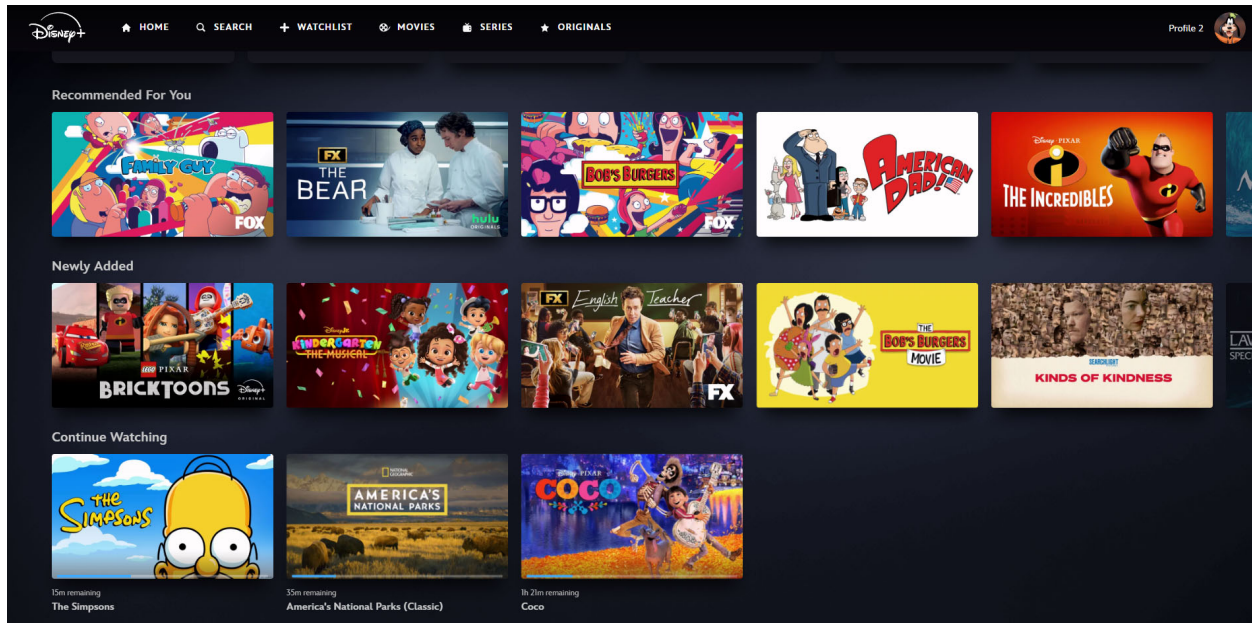
686. The Walt Disney Company infringes one or more claims of the '595 patent by making, using, selling and/or offering to sell ESPN+ in this District and elsewhere in the United States, and/or importing ESPN+ into this District and elsewhere in the United States.

687. Adeia provides the following explanation of infringement with regard to an exemplary claim compared to exemplary functionality. Adeia reserves the right to present additional or alternative explanations of infringement for the claim and functionalities identified below and for other claims and functionalities of the services.

688. Claim 1 of the '595 patent recites: "A method for presenting media content based on a user's viewing progress within serial programs on user equipment, the method comprising."

To the extent that this preamble is limiting, the Disney+,⁶¹ Hulu,⁶² and ESPN+ services perform this element.

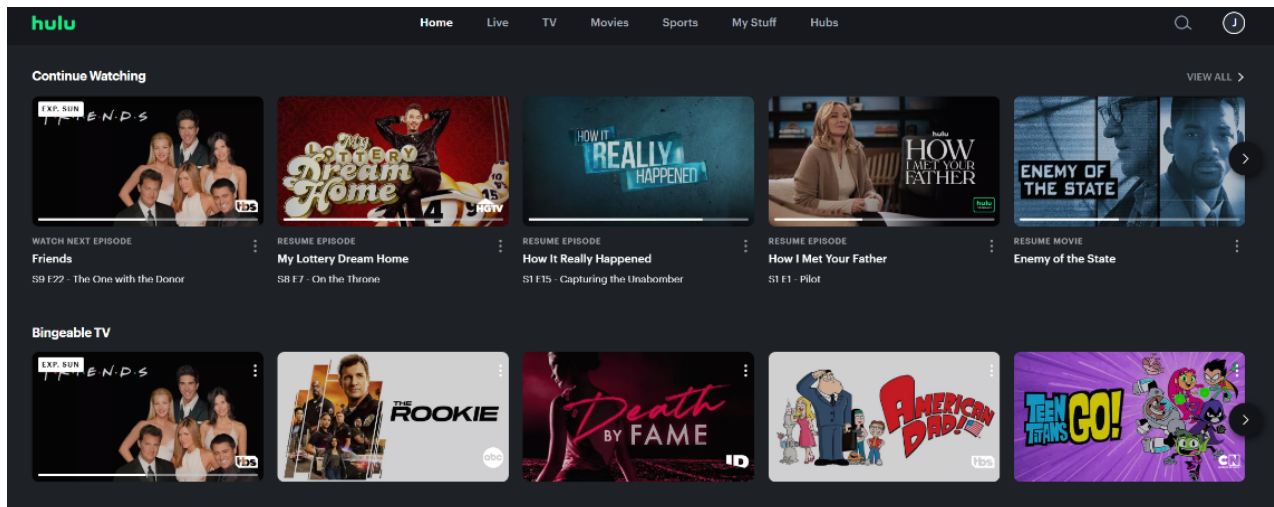
689. Disney+ provides media content based on a user's viewing progress within serial programs on user equipment. For example, the Continue Watching row displays user progress for media content items:



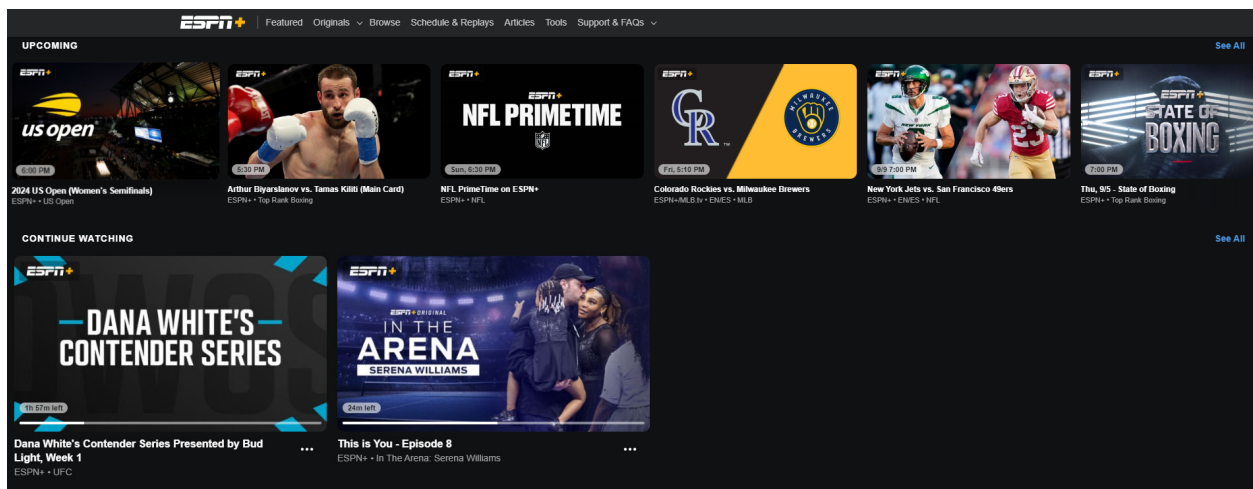
690. The Hulu website provides media content based on a user's viewing progress within serial programs on user equipment. For example, the Continue Watching row displays user progress for media content items:

⁶¹ This exemplary explanation refers to the operation of certain implementations of Disney+ after about November 2019. See Sean Keane, *Disney Plus adds 'Continue Watching' so you can easily pick up where you left off*, CNET (Nov. 26, 2019), <https://www.cnet.com/culture/entertainment/disney-plus-adds-continue-watching-section-so-you-know-how-much-youve-seen/>.

⁶² This exemplary explanation refers to the operation of certain implementations of Hulu.



691. ESPN+ provides media content based on a user's viewing progress within serial programs on user equipment. For example, the Continue Watching row displays user progress for media content items:



692. Claim 1 of the '595 patent recites: "creating, using control circuitry, a media profile comprising a first viewing progress within a first serial program and a second viewing progress within a second serial program." The Disney+, Hulu, and ESPN+ services perform this element.

693. Disney+ requires users to select a user profile and stores associated viewing progress within first and second serial programs. As shown above, the progress bars displayed for various serial programs are associated with a particular profile.

694. Hulu requires users to select a user profile and stores associated viewing progress within first and second serial programs. As shown above, the progress bars displayed for various serial programs are associated with a particular profile.

695. ESPN+ requires users to select a user profile and stores associated viewing progress within first and second serial programs. As shown above, the progress bars displayed for various serial programs are associated with a particular profile.

696. Claim 1 of the '595 patent recites: "storing the media profile in a storage device." The Disney+, Hulu, and ESPN+ services perform this element.

697. Disney+ stores media profiles in at least one storage device (*e.g.*, in a database stored on a server).

698. Hulu stores media profiles in at least one storage device (*e.g.*, in a database stored on a server).

699. ESPN+ stores media profiles in at least one storage device (*e.g.*, in a database stored on a server).

700. Claim 1 of the '595 patent recites: "determining, using the control circuitry, a first progress point in the first serial program based on the first viewing progress and a second progress point in the second serial program based on the second viewing progress." The Disney+, Hulu, and ESPN+ services perform this element.

701. Disney+ provides media content by determining, using the control circuitry, a first progress point in the first serial program based on the first viewing progress and a second progress point in the second serial program based on the second viewing progress. This is reflected in the progress bars for each content item in the Continue Watching row shown above.

702. Hulu provides media content by determining, using the control circuitry, a first progress point in the first serial program based on the first viewing progress and a second progress point in the second serial program based on the second viewing progress. This is reflected in the progress bars for each content item in the Continue Watching row shown above.

703. ESPN+ provides media content by determining, using the control circuitry, a first progress point in the first serial program based on the first viewing progress and a second progress point in the second serial program based on the second viewing progress. This is reflected in the progress bars for each content item in the Continue Watching row shown above.

704. Claim 1 of the '595 patent recites: “generating for display, on a display screen, a first user-selectable link corresponding to the first progress point in the first serial program adjacent to a second user-selectable link corresponding to the second progress point in the second serial program.” The Disney+, Hulu, and ESPN+ services perform this element.

705. Disney+ generates for display, on a display screen, a first user-selectable link corresponding to the first progress point in the first serial program, *e.g.*, the thumbnail image for a first serial program in the Continue Watching row. Disney+ generates for display, on a display screen, a second user-selectable link corresponding to the second progress point in the second serial program, *e.g.*, the thumbnail image for a second serial program in the Continue Watching row. The first and second user-selectable links are adjacent.

706. Hulu generates for display, on a display screen, a first user-selectable link corresponding to the first progress point in the first serial program, *e.g.*, the thumbnail image for a first serial program in the Continue Watching row. Hulu generates for display, on a display screen, a second user-selectable link corresponding to the second progress point in the second serial

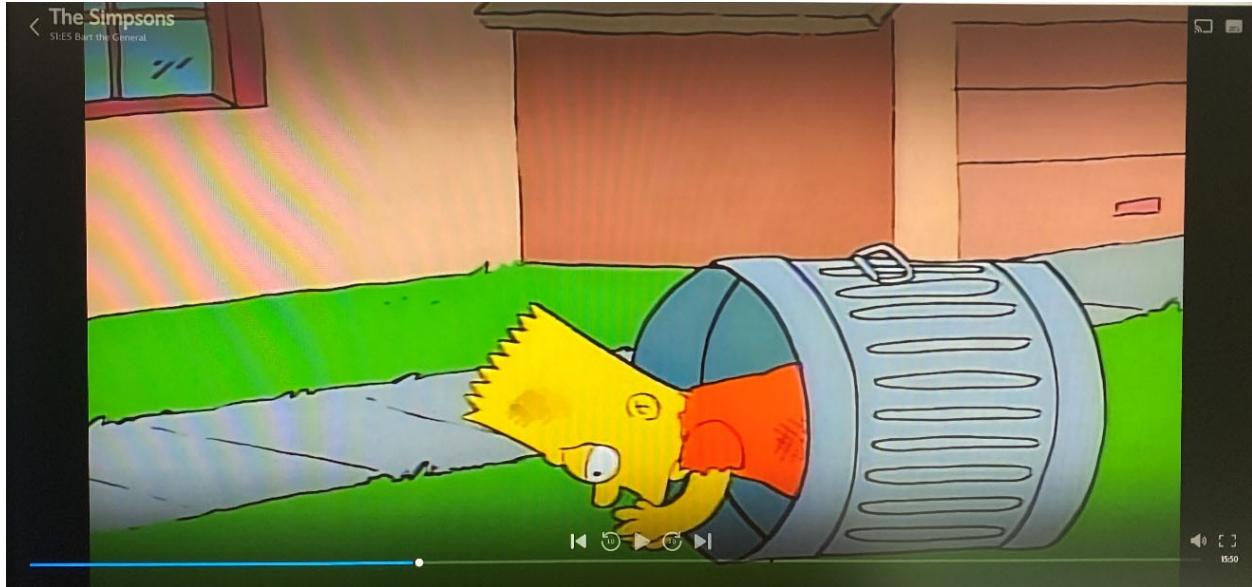
program, *e.g.*, the thumbnail image for a second serial program in the Continue Watching row. The first and second user-selectable links are adjacent.

707. ESPN+ generates for display, on a display screen, a first user-selectable link corresponding to the first progress point in the first serial program, *e.g.*, the thumbnail image for a first serial program in the Continue Watching row. ESPN+ generates for display, on a display screen, a second user-selectable link corresponding to the second progress point in the second serial program, *e.g.*, the thumbnail image for a second serial program in the Continue Watching row. The first and second user-selectable links are adjacent.

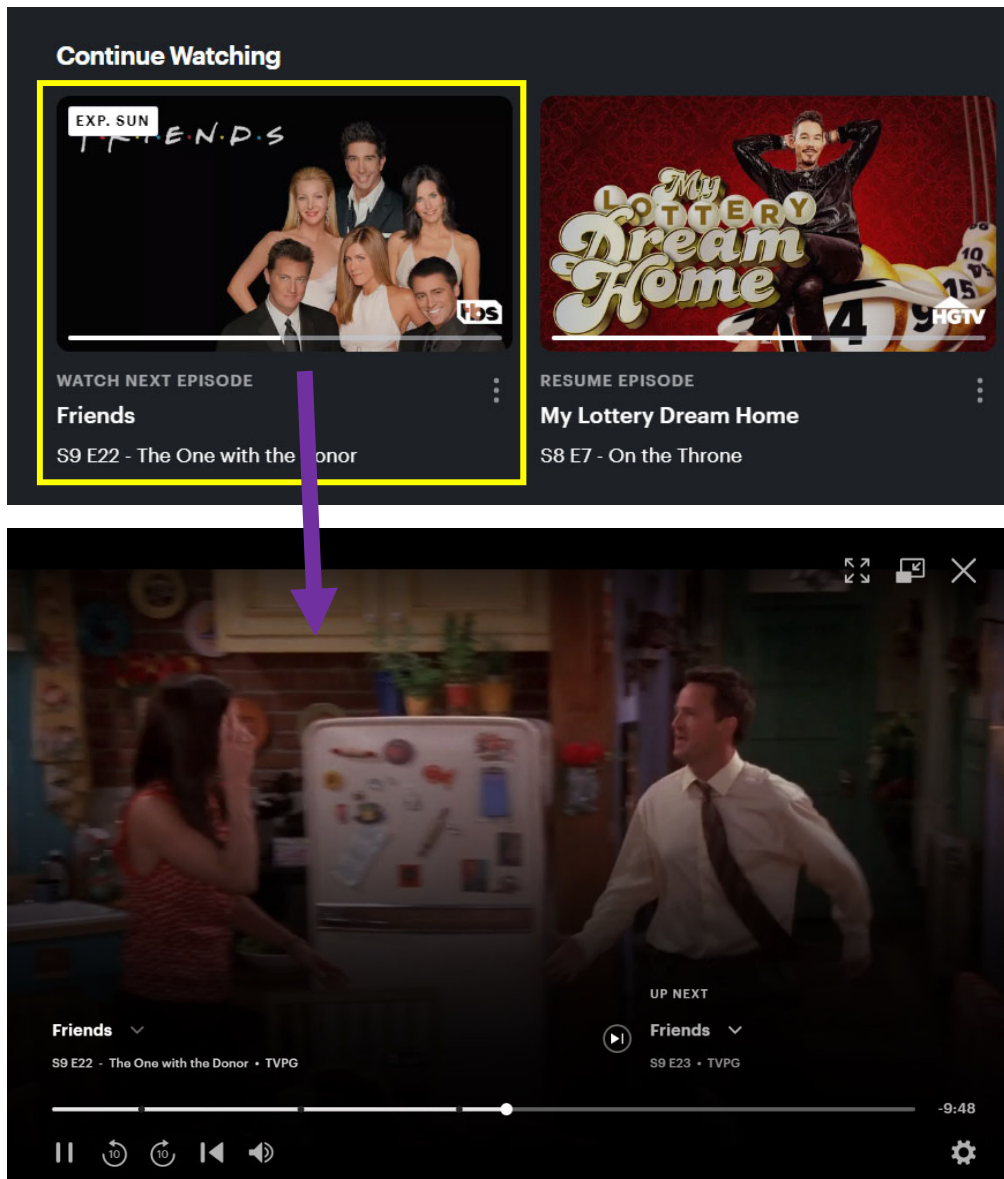
708. Claim 1 of the '595 patent recites: "wherein selecting the first user-selectable link causes the first serial program to be generated for display at the first progress point." The Disney+, Hulu, and ESPN+ services perform this element.

709. Disney+ provides that, a user selection of a first serial program in the Continue Watching row, which includes a URL link, causes the first serial program to be generated for display at the first progress point, as shown below:

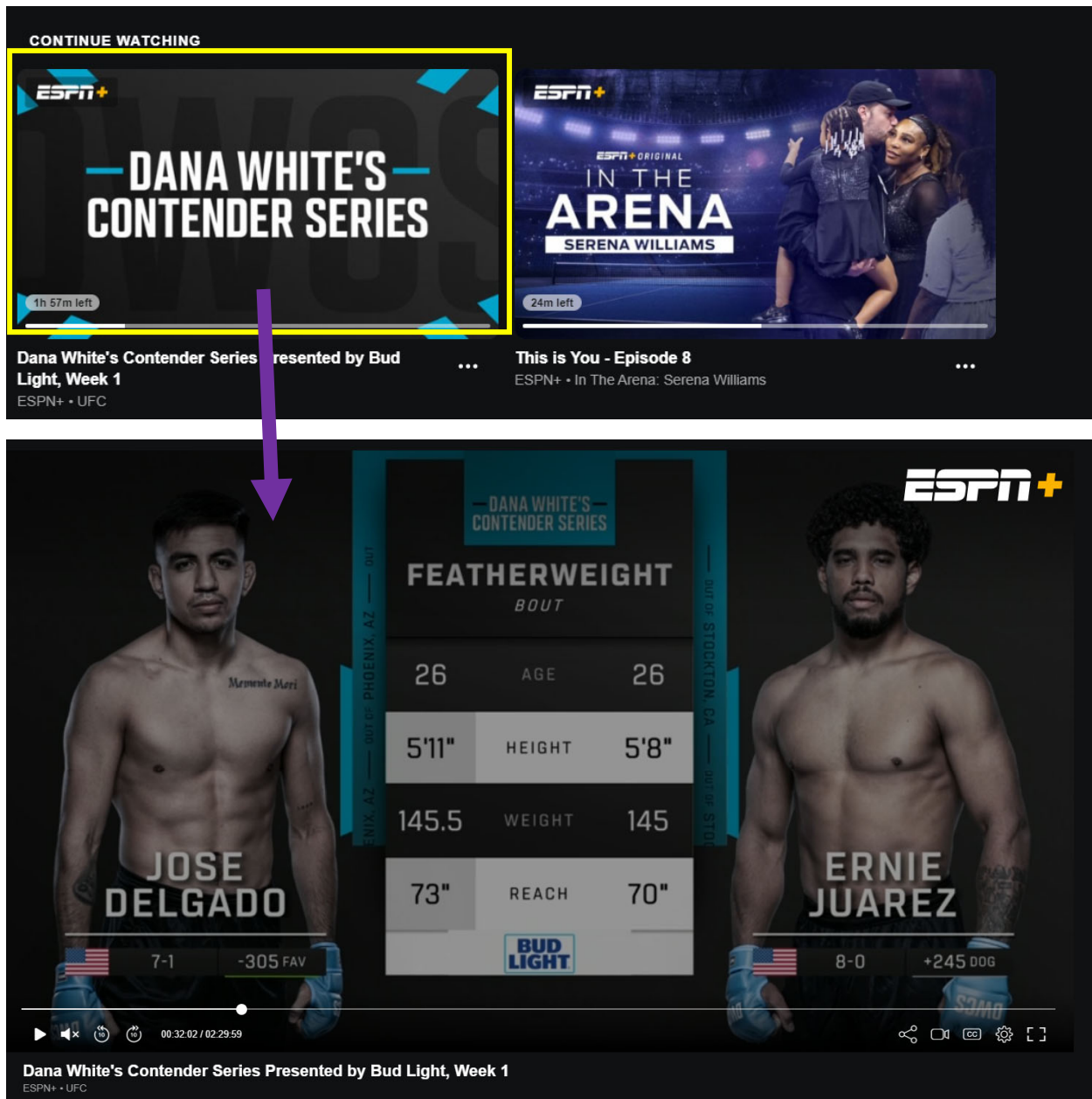




710. Hulu provides that, a user selection of a first serial program in the Continue Watching row, which includes a URL link, causes the first serial program to be generated for display at the first progress point, as shown below:

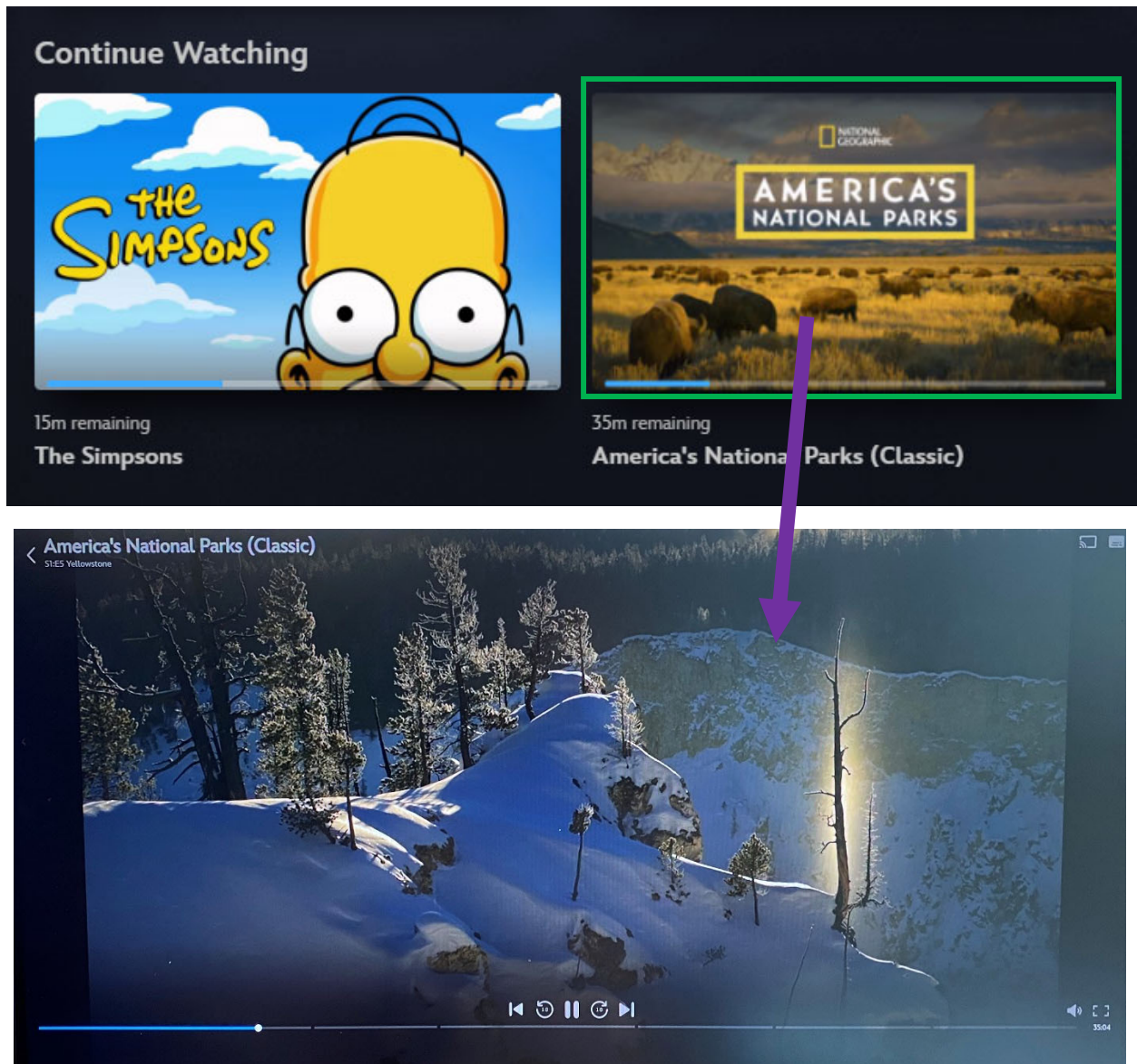


711. ESPN+ provides that, a user selection of a first serial program in the Continue Watching row, which includes a URL link, causes the first serial program to be generated for display at the first progress point, as shown below:

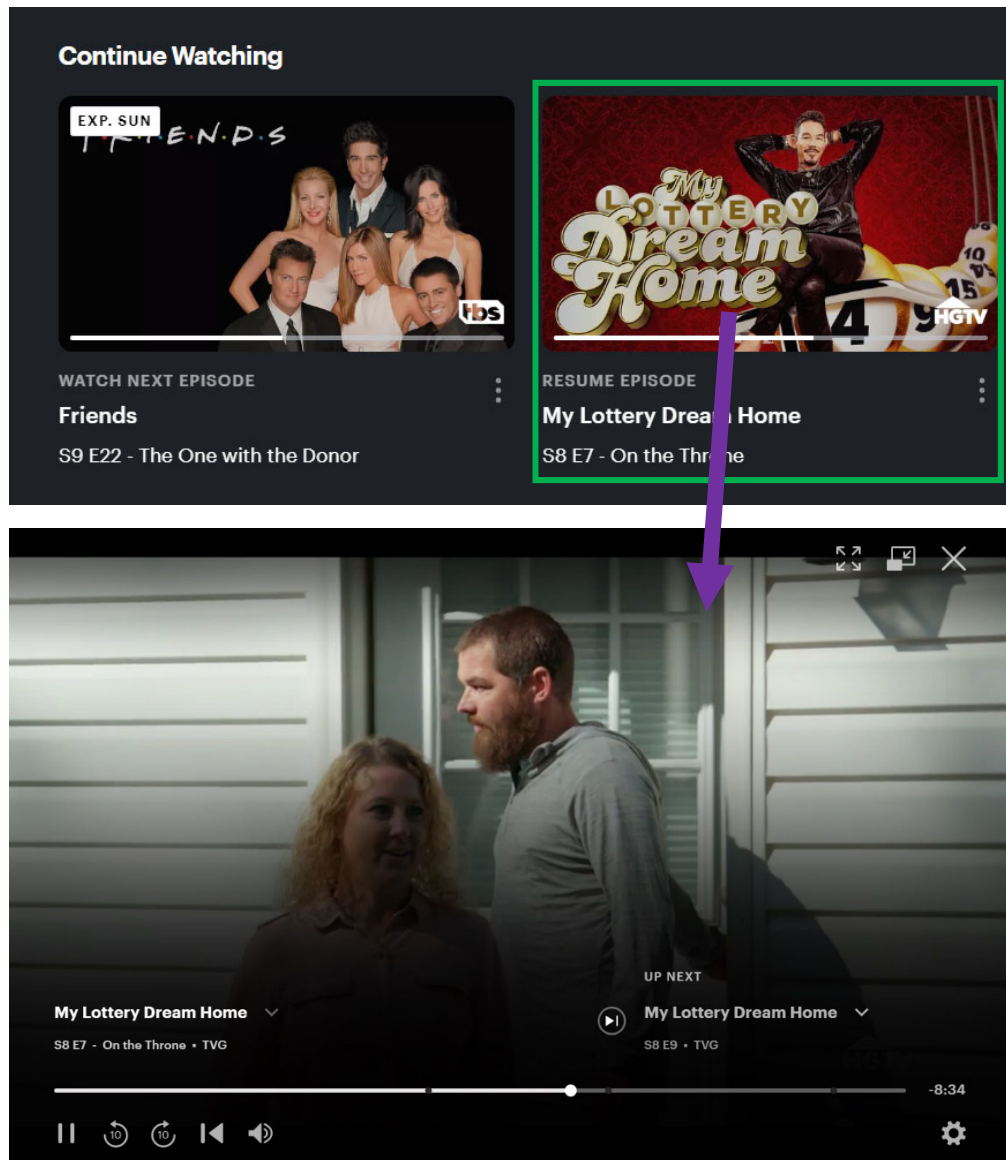


712. Claim 1 of the '595 patent recites: “wherein selecting the second user-selectable link causes the second serial program to be generated for display at the second progress point.” The Disney+, Hulu, and ESPN+ services perform this element.

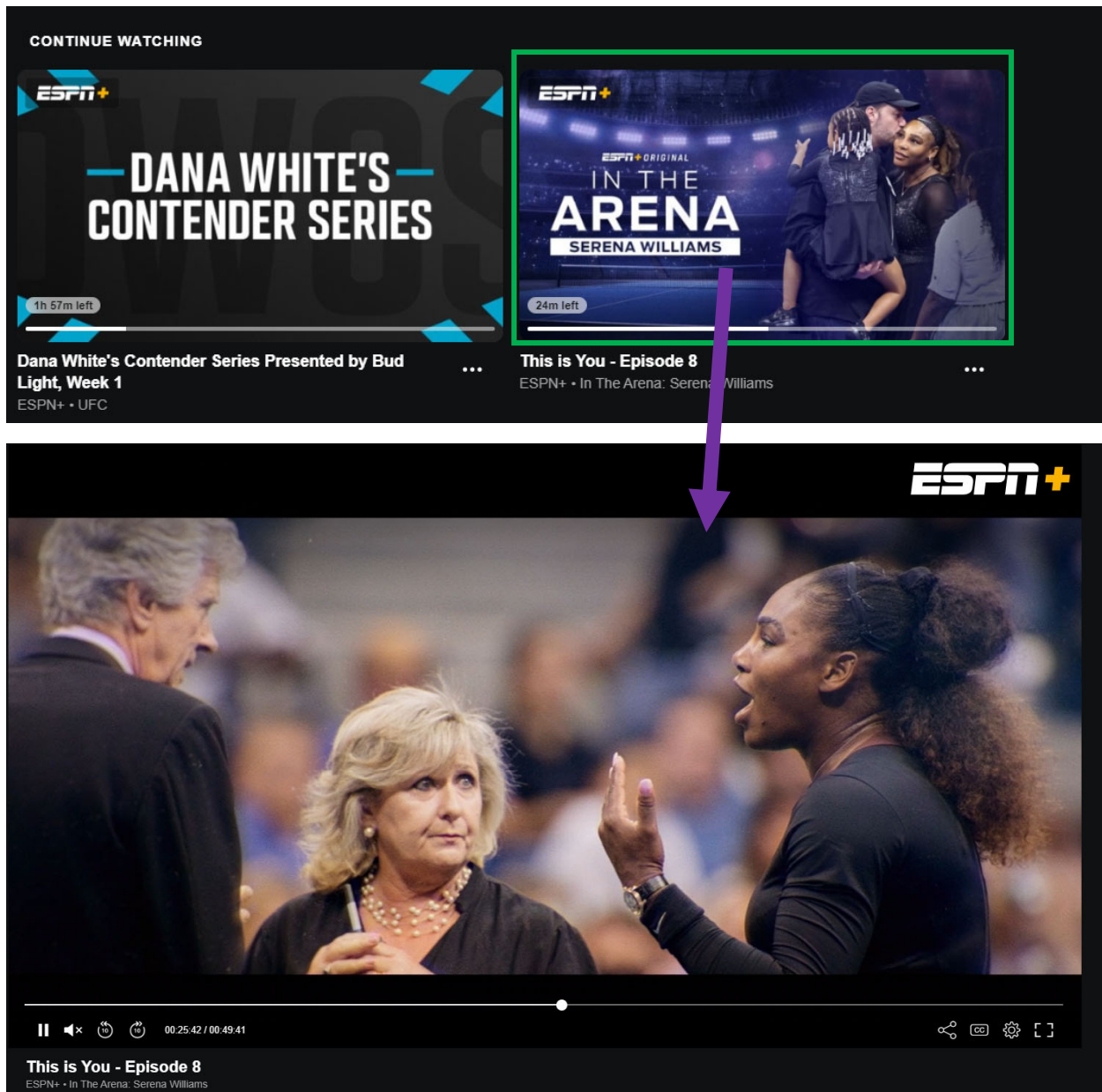
713. Disney+ provides that, a user selection of a second serial program in the Continue Watching row, which includes a URL link, causes the second serial program to be generated for display at the first progress point, as shown below:



714. Hulu provides that, a user selection of a second serial program in the Continue Watching row, which includes a URL link, causes the second serial program to be generated for display at the first progress point, as shown below:



715. ESPN+ provides that, a user selection of a second serial program in the Continue Watching row, which includes a URL link, causes the second serial program to be generated for display at the first progress point, as shown below:



716. Claim 1 of the '595 patent recites: “receiving a user selection of the first link; and in response to receiving the user selection, generating for display the first serial program at the first progress point.” The Disney+, Hulu, and ESPN+ services perform this element.

717. As shown above, in response to receiving the user selection, Disney+ generates for display the first serial program at the first progress point.

718. As shown above, in response to receiving the user selection, Hulu generates for display the first serial program at the first progress point.

719. As shown above, in response to receiving the user selection, ESPN+ generates for display the first serial program at the first progress point.

720. As described above, Defendants make, use, sell, and offer to sell the Disney+, Hulu, and ESPN+ services.

721. As described above, Defendants also test Disney+, Hulu, and ESPN+ for development purposes and to ensure quality of service.

722. In addition or in the alternative, Defendants direct or control their customers' performance of one or more claimed steps of the '595 patent claims, condition the benefits of each Disney+, Hulu, and ESPN+ on the performance of those steps, and/or have the power, right, and ability to stop the performance of those steps but decline to do so and instead profit from their performance. Defendants control access to Disney+, Hulu, and ESPN+. Defendants thus condition their customers' use and operation of the Accused Instrumentalities in a way that would cause the performance of the claimed method steps. Thus, the performance of the claimed method steps is attributable to Defendants.

723. Therefore, Defendants directly infringe, literally and/or under the doctrine of equivalents, the '595 patent under 35 U.S.C. § 271(a).

724. In addition, Defendants have indirectly infringed the '595 patent under 35 U.S.C. § 271(b).

725. Defendants have induced infringement by each other and others, such as their respective subsidiaries and end-user customers.

726. Defendants' advertising, sales, design, development, and/or technical materials related to operation of the Accused Instrumentalities contained and continue to contain instructions, directions, suggestions, and/or invitations that invite, entice, lead on, influence, encourage, prevail on, move by persuasion, and/or cause its subsidiaries and customers to directly infringe at least one claim of the '595 patent, either literally or under the doctrine of equivalents.

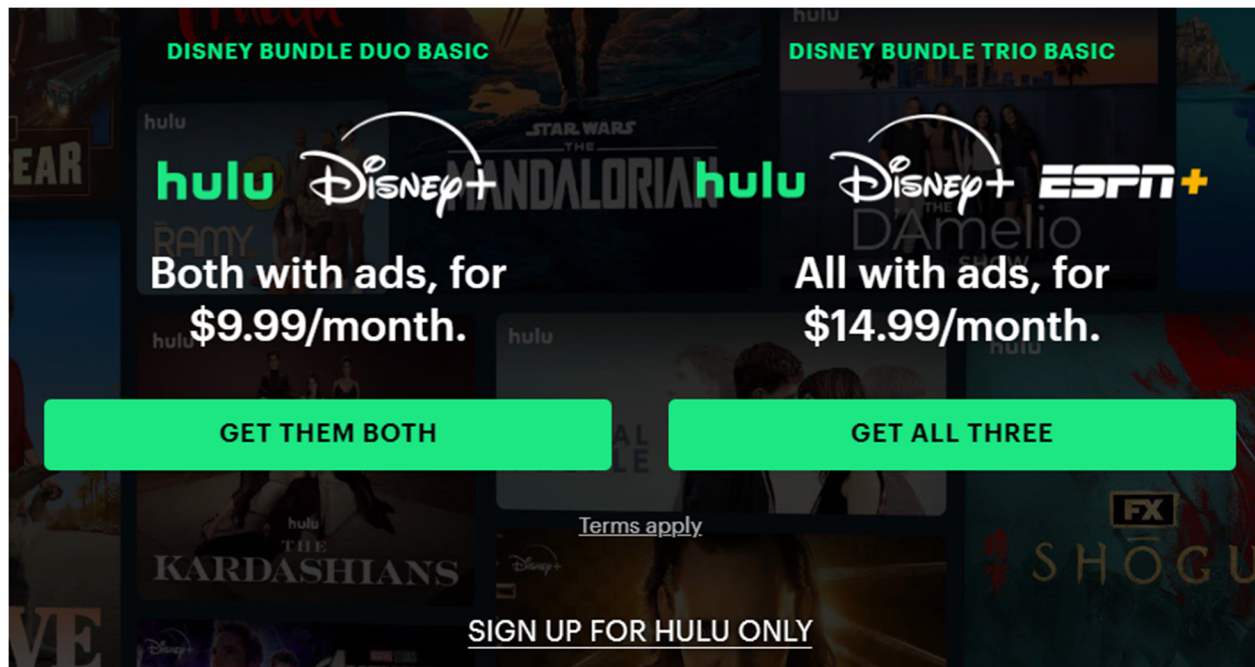
727. Additionally, Defendants have induced infringement by the Hulu service's end-user customers, for example, by implementing the infringing features in its Hulu service, encouraging its users to use that functionality within the United States, requiring its users to use the Hulu app or website in order to obtain the Hulu streaming service, and/or instructing, dictating, or training its customers to use the infringing features.

728. Additionally, Defendants have induced infringement by the Disney+ service's end-user customers, for example, by implementing the infringing features in its Disney+ service, encouraging its users to use that functionality within the United States, requiring its users to use the Disney+ app or website in order to obtain the Disney+ streaming service, and/or instructing, dictating, or training its customers to use the infringing features.

729. Additionally, Defendants have induced infringement by the ESPN+ service's end-user customers, for example, by implementing the infringing features in its ESPN+ service, encouraging its users to use that functionality within the United States, requiring its users to use the ESPN+ app or website in order to obtain the ESPN+ streaming service, and/or instructing, dictating, or training its customers to use the infringing features.

730. In addition, Defendants sell, offer to sell, advertise, invite, entice, lead on, influence, encourage, prevail on, move by persuasion, and/or cause customers to subscribe to Disney+, Hulu, and ESPN+.

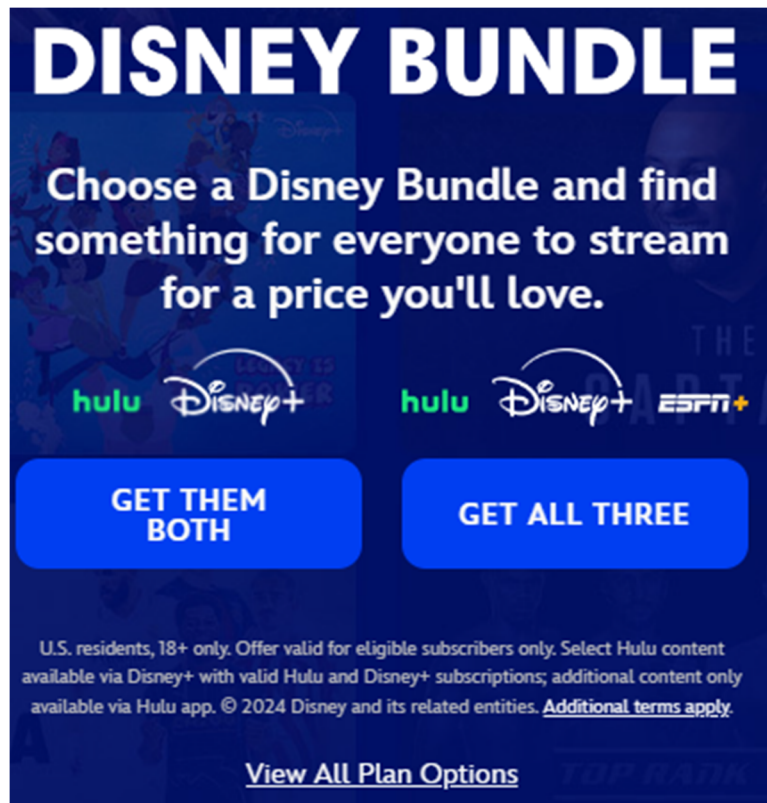
731. For example, Hulu directs potential customers looking to sign up for streaming services to information about Disney+ and ESPN+, encourages customers to sign up for Disney+ and ESPN+, and offers to provide discounted rates to customers that sign up for Disney+ and ESPN+.⁶³



732. As another example, Disney+ directs potential customers looking to sign up for streaming services to information about Hulu and ESPN+, encourages customers to sign up for Hulu and ESPN+, and offers discounted rates to customers that sign up for Hulu and ESPN+.⁶⁴

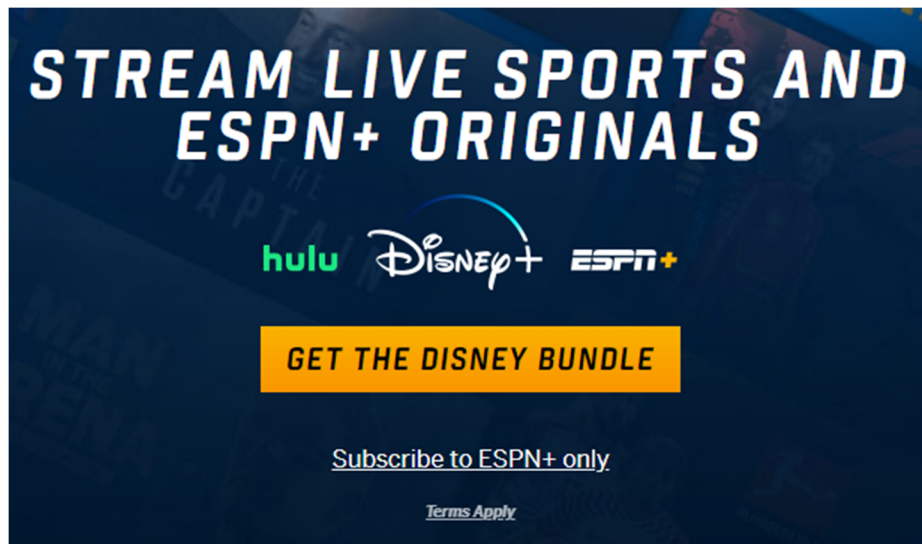
⁶³ HULU, <https://www.hulu.com/welcome>.

⁶⁴ *Disney Bundle*, DISNEY+, <https://www.disneyplus.com/welcome/disney-hulu-espn-bundle>.



733. In addition, ESPN+ directs potential customers looking to sign up for streaming services to information about the Hulu and Disney+ streaming services on its website, encourages potential customers to subscribe to Hulu and Disney+, and offers to provide discounted rates to customers that sign up for Disney+ and Hulu:⁶⁵

⁶⁵ ESPN+, <https://plus.espn.com/>.



734. Defendants took the above actions intending to cause infringing acts by others, and/or it willfully blinded itself as to the existence of the Asserted Patent and the Accused Instrumentalities' infringement thereof.

735. Accordingly, Defendants have indirectly infringed the '595 patent under 35 U.S.C. § 271(b).

736. Defendants' acts of infringement have caused damage to Adeia. Adeia is entitled to recover from Defendants the damages sustained by Adeia as a result of their wrongful acts in an amount subject to proof at trial.

COUNT 4: INFRINGEMENT OF U.S. PATENT NO. 10,165,324

737. Adeia incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

738. The '324 patent, entitled "Systems and methods for episode tracking in an interactive media environment," issued on December 25, 2018, and names as inventors Charles Cordray, Todd A. Walker, and Samir B. Armaly. The '324 patent is attached as Exhibit D.

739. Adeia Guides Inc. owns all rights, title, and interest in the '324 patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

740. The '324 patent is valid and enforceable and directed to patentable subject matter.

741. As a matter of law, the notice provisions of 35 U.S.C. § 287 do not apply in this case for the '324 patent, and therefore Adeia has satisfied its obligations under 35 U.S.C. § 287 with respect to the '324 patent.

742. The '324 patent relates to interactive media environments that enable users to effectively interact with video-on-demand and streaming services. In the 2000s, streaming services were not as ubiquitous as they are today. Before the advent of certain video-on-demand and digital video recording systems (DVR), users were less likely to become disconnected from the rigid broadcast schedules that governed media content delivery. Then-known interactive media environments did not track or report a user's progress through a broadcast television series or movie sequels. '324 patent at 1:22–2:26.

743. A challenge particular to the content-streaming context, streaming services needed to provide the user with the ability to restart the data transmission from where the user left off, but that task was particularly complicated where the media was not stored locally on the user's device and required network-access links. The patent was tuned to solve that problem: It provides a method for presenting media content where progress is saved and stored; user selectable links are then generated that correspond to the relevant progress points within serialized programs, and selection of those links provides the option to resume media transmission from the progress point. The typical media streaming systems and methods at the time would not have included an interface with selectable links to transport the user back into the progress point within media content, and

the inventions of the '324 patent enabled a computer to do something it did not before: access a previous progress point in streamed media content directly, avoiding the user's labor of having to find the progress point themselves or the user's exposure to incorrect or spoiler-containing content.

744. In addition, using the claimed user profiles, which store progress points, in combination with the generation of links corresponding to the stored progress points enables the user to seamlessly switch between streaming on different devices, picking up the content where she left off when watching on a different device. As the specification explains, "a user's media profile may be portable to any user equipment in the interactive media system." '324 patent at 2:60-62.

745. The inventions offer a new way to interact with content in the streaming context with definite technological benefits. For example, by enabling the resumption of content streaming from specific content progress points, bandwidth usage is both decreased and optimized. Video streaming requires significant data transmission, and obviating the need for users to download excessive content as they track through and skip around in programs to find their progress points is a significant network benefit facilitated by the invention. Streaming content is served remotely with less burden on the network.

746. The claims of the '324 patent enable streaming with an improved user interface on devices with display constraints, providing interactive media guidance that allows users to efficiently resume playback at a progress point via an option accessed through a selectable link, rather than navigating through large volumes of available media. Moreover, user selectable links reflecting the progress of the user in two different serial programs are displayed adjacent to one another in the interface, allowing for further ease of access. The inventions claimed generate user profiles to provide a tailored user-interface experience, and those tailored solutions change and

improve the capability of computer systems. And the '324 patent provides an improved user interface where user selectable links reflecting the progress of the user in two different serial programs are displayed adjacent to one another, allowing for ease of access.

747. “With the advent of the Internet, mobile computing, and high-speed wireless networks, users are able to access media on personal computers (PCs) and devices on which they traditionally could not.” ’324 patent at 4:21–24. “[M]edia guidance [was] also necessary on modern non-television-centric platforms. For example, media guidance applications may be provided as on-line applications (i.e., provided on a web-site), or as stand-alone applications or clients on hand-held computers, personal digital assistants (PDAs) or cellular telephones.” *Id.* at 4:32–36. Those devices, however, presented particular challenges to user interfaces, as the content provider had to adjust for limited screen real estate and input constraints in developing an effective user interface. The inventions enabled streaming on new types of devices via Internet delivery offering dynamic interfaces that provided a consistent, tailored, and efficient user experience across devices of various specifications, *e.g.*, TVs with only a remote control, mobile devices with small screens and limited/no keyboards, etc.

748. Moreover, the components recited in the claims are unconventional, non-routine, and were not well-understood at the time of the invention, either considered alone or as an ordered combination.

749. Hulu, LLC infringes one or more claims of the '324 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

750. Disney DTC LLC infringes one or more claims of the '324 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

751. Disney DTC LLC infringes one or more claims of the '324 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

752. Disney Entertainment & Sports LLC infringes one or more claims of the '324 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

753. Disney Entertainment & Sports LLC infringes one or more claims of the '324 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

754. Disney Streaming Services LLC infringes one or more claims of the '324 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

755. Disney Streaming Services LLC infringes one or more claims of the '324 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

756. Disney Platform Distribution, Inc. infringes one or more claims of the '324 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

757. Disney Platform Distribution, Inc. infringes one or more claims of the '324 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

758. Disney Media and Entertainment Distribution LLC infringes one or more claims of the '324 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

759. Disney Media and Entertainment Distribution LLC infringes one or more claims of the '324 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

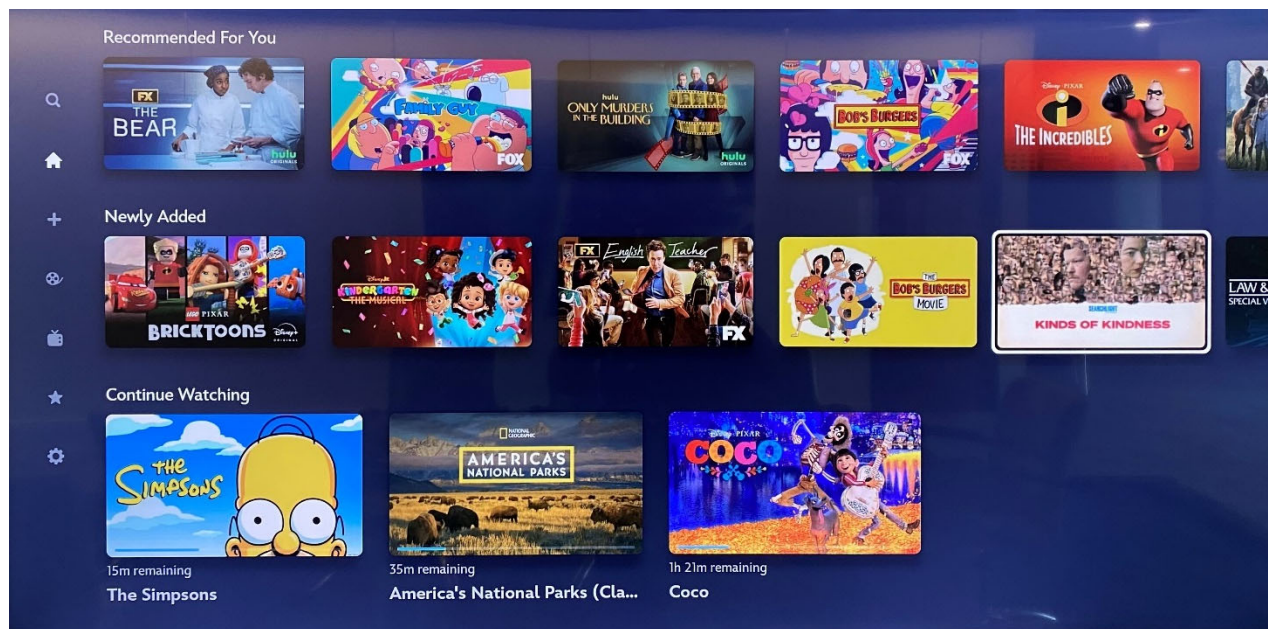
760. The Walt Disney Company infringes one or more claims of the '324 patent by making, using, selling and/or offering to sell Disney+ in this District and elsewhere in the United States, and/or importing Disney+ into this District and elsewhere in the United States.

761. The Walt Disney Company infringes one or more claims of the '324 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

762. Adeia provides the following explanation of infringement with regard to an exemplary claim compared to exemplary functionality. Adeia reserves the right to present additional or alternative explanations of infringement for the claim and functionalities identified below and for other claims and functionalities of the services.

763. Claim 1 of the '324 patent recites: “A method for presenting media content based on a user’s viewing progress within serial programs on user equipment, the method comprising.” To the extent that this preamble is limiting, the Disney+⁶⁶ and Hulu⁶⁷ services perform this element.

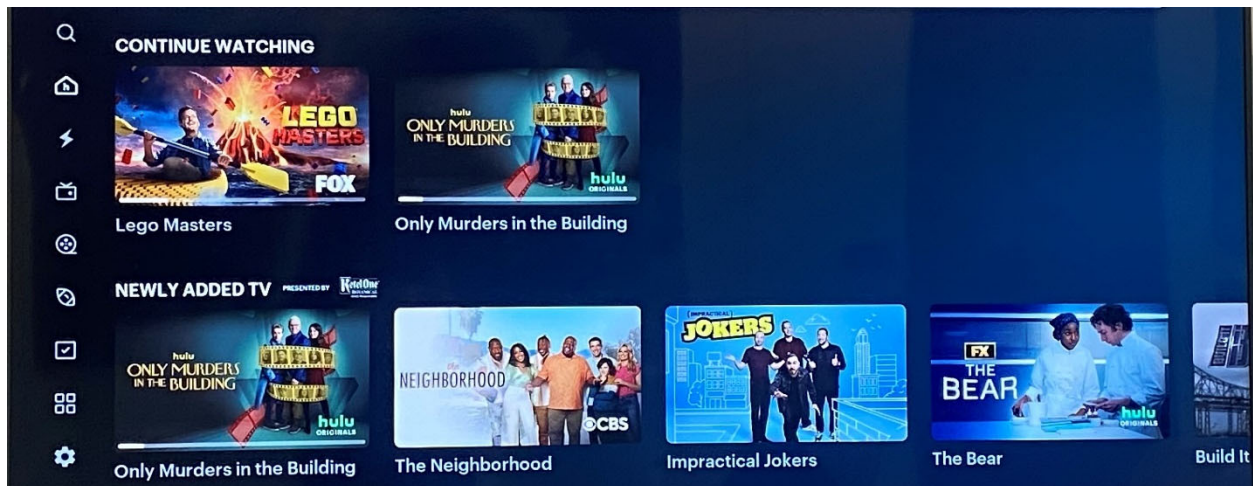
764. Disney+ provides media content based on a user’s viewing progress within serial programs on user equipment. For example, the Continue Watching row displays user progress for media content items:



765. Hulu provides media content based on a user’s viewing progress within serial programs on user equipment. For example, the Continue Watching row displays user progress for media content items:

⁶⁶ This exemplary explanation refers to the operation of certain implementations of Disney+ after about November 2019. See Sean Keane, *Disney Plus adds 'Continue Watching' so you can easily pick up where you left off*, CNET (Nov. 26, 2019), <https://www.cnet.com/culture/entertainment/disney-plus-adds-continue-watching-section-so-you-know-how-much-youve-seen/>.

⁶⁷ This exemplary explanation refers to the operation of certain implementations of Hulu.



766. Claim 1 of the '324 patent recites: “creating, using control circuitry, a media profile comprising a first viewing progress within a first serial program and a second viewing progress within a second serial program.” The Disney+ and Hulu services perform this element.⁶⁸

767. Disney+ requires users to select a user profile and stores associated viewing progress within first and second serial programs. As shown above, the progress bars displayed for various serial programs are associated with a particular profile.

768. Hulu requires users to select a user profile and stores associated viewing progress within first and second serial programs. As shown above, the progress bars displayed for various serial programs are associated with a particular profile.

769. Claim 1 of the '324 patent recites: “storing the media profile in a storage device.” The Disney+ and Hulu services perform this element.

⁶⁸ This exemplary explanation refers to the operation of Disney+ at certain times after about November 2019. See Sean Keane, *Disney Plus adds 'Continue Watching' so you can easily pick up where you left off*, CNET (Nov. 26, 2019), <https://www.cnet.com/culture/entertainment/disney-plus-adds-continue-watching-section-so-you-know-how-much-youve-seen/>.

770. Disney+ stores media profiles in at least one storage device (*e.g.*, in a database stored on a server).

771. Hulu stores media profiles in at least one storage device (*e.g.*, in a database stored on a server).

772. Claim 1 of the '324 patent recites: “determining, using the control circuitry, a first progress point in the first serial program based on the first viewing progress and a second progress point in the second serial program based on the second viewing progress.” The Disney+ and Hulu services perform this element.

773. Disney+ provides media content by determining, using the control circuitry, a first progress point in the first serial program based on the first viewing progress and a second progress point in the second serial program based on the second viewing progress. This is reflected in the progress bars for each content item in the Continue Watching row shown above.

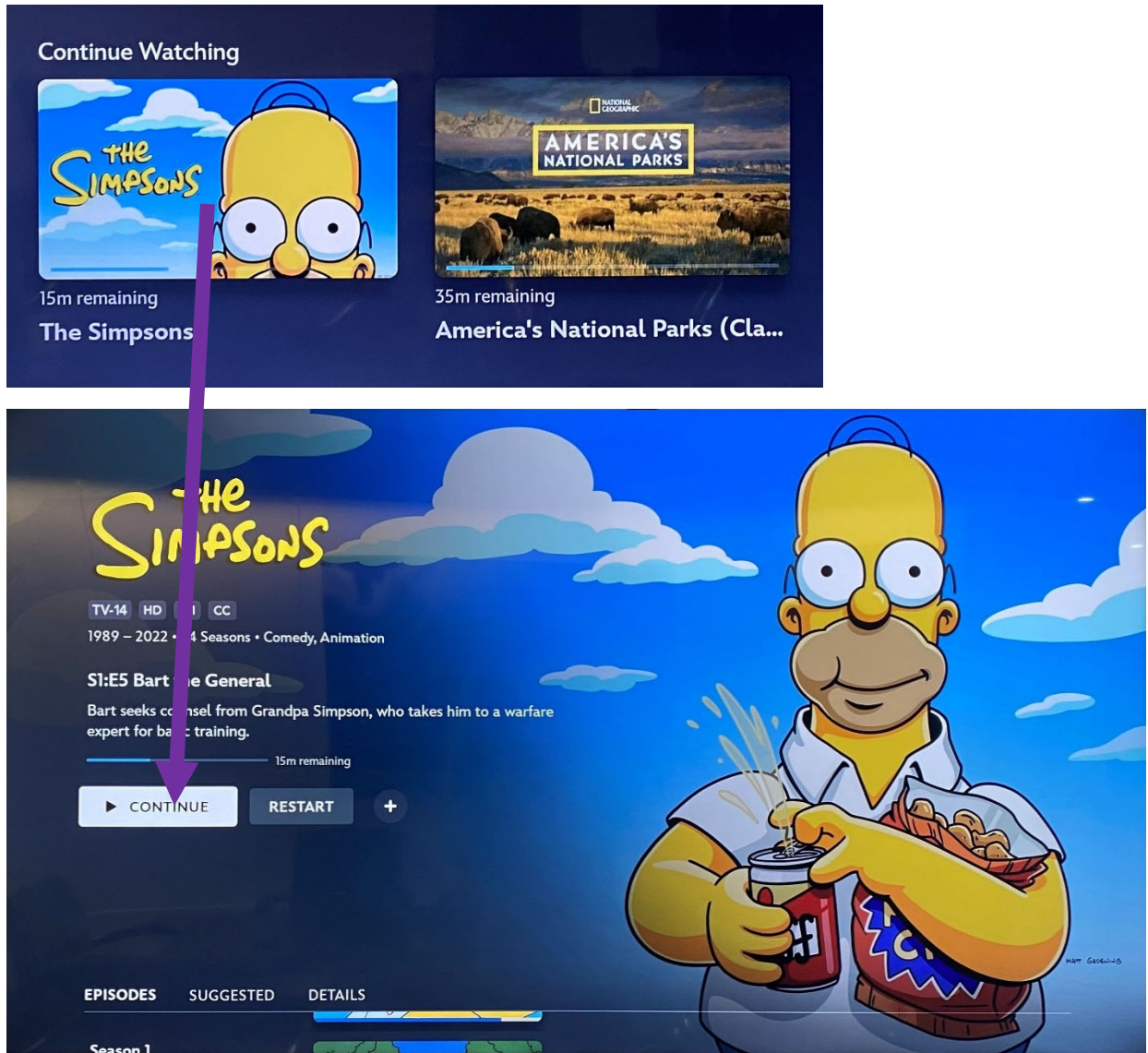
774. Hulu provides media content by determining, using the control circuitry, a first progress point in the first serial program based on the first viewing progress and a second progress point in the second serial program based on the second viewing progress. This is reflected in the progress bars for each content item in the Continue Watching row shown above.

775. Claim 1 of the '324 patent recites: “generating for display, on a display screen, a first user-selectable link corresponding to the first progress point in the first serial program adjacent to a second user-selectable link corresponding to the second progress point in the second serial program, wherein selecting the first user-selectable link causes a first option for generating for display the first serial program at the first progress point to be displayed, and wherein selecting the second user-selectable link causes a second option for generating for display the second serial

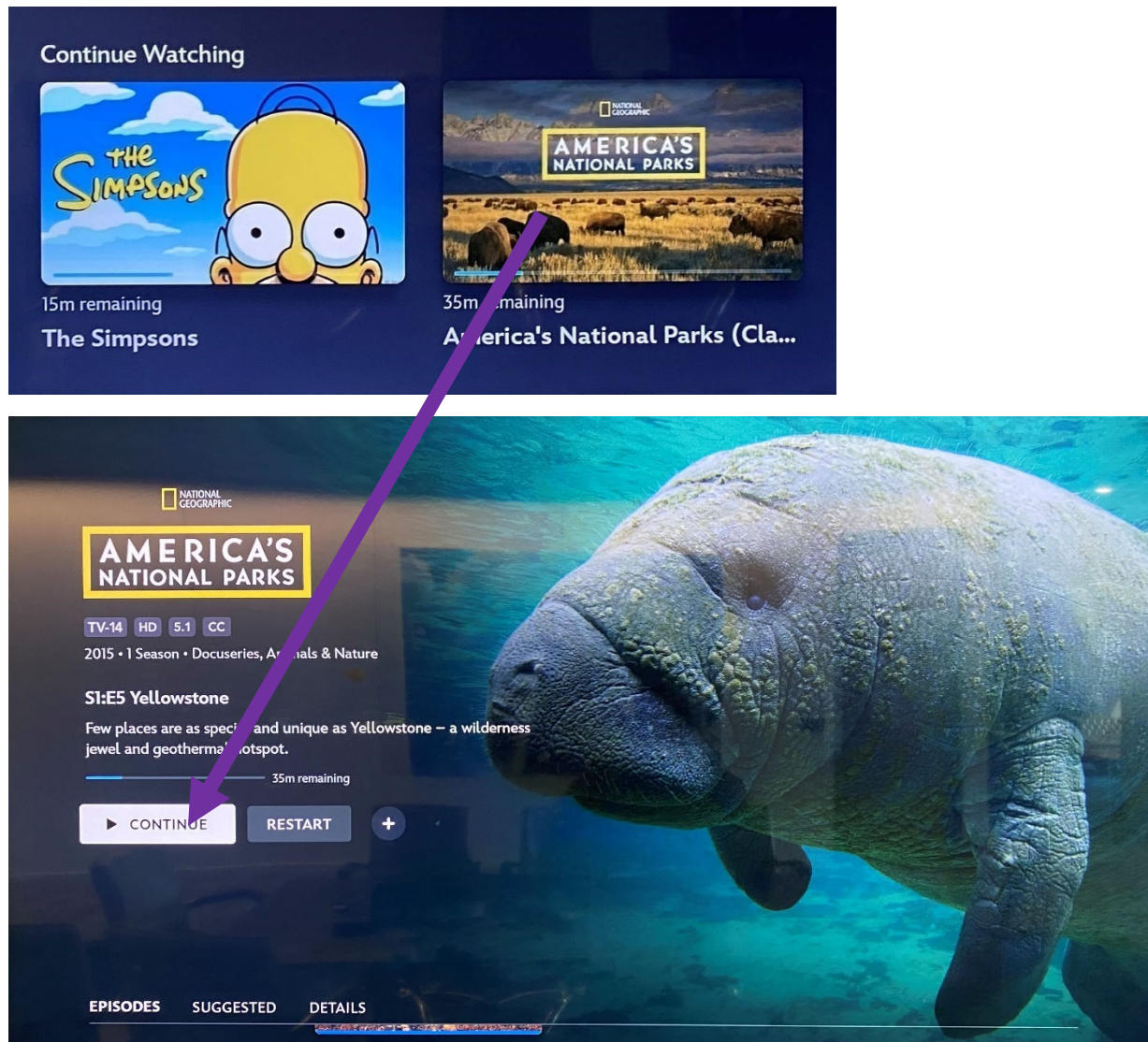
program at the second progress point to be displayed.” The Disney+ and Hulu services perform this element.

776. Disney+ generates for display, on a display screen, a first user-selectable link corresponding to the first progress point in the first serial program, *e.g.*, the thumbnail image for a first serial program in the Continue Watching row. Disney+ generates for display, on a display screen, a second user-selectable link corresponding to the second progress point in the second serial program, *e.g.*, the thumbnail image for a second serial program in the Continue Watching row. The first and second user-selectable links are adjacent.

777. Selecting the first user-selectable link causes a first option for generating for display the first serial program at the first progress point to be displayed, and similarly for the second user-selectable link. For example, when a user selects one of the thumbnails in the Continue Watching row, Disney+ presents an option for playing the serial program at the first progress point.



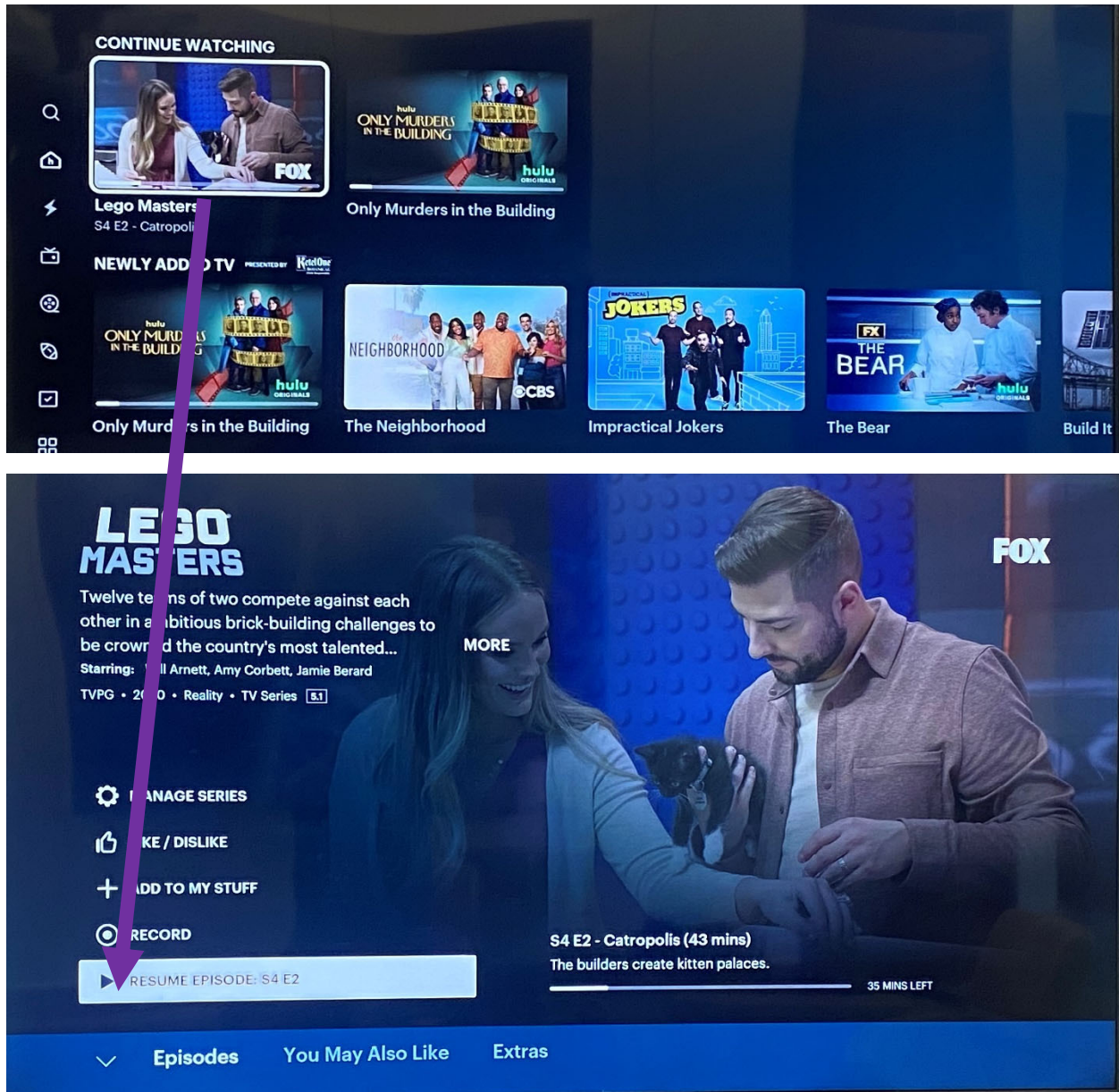
778. As a further example, when a user selects a second of the thumbnails in the Continue Watching row, Disney+ presents an option for playing the serial program at the second progress point.



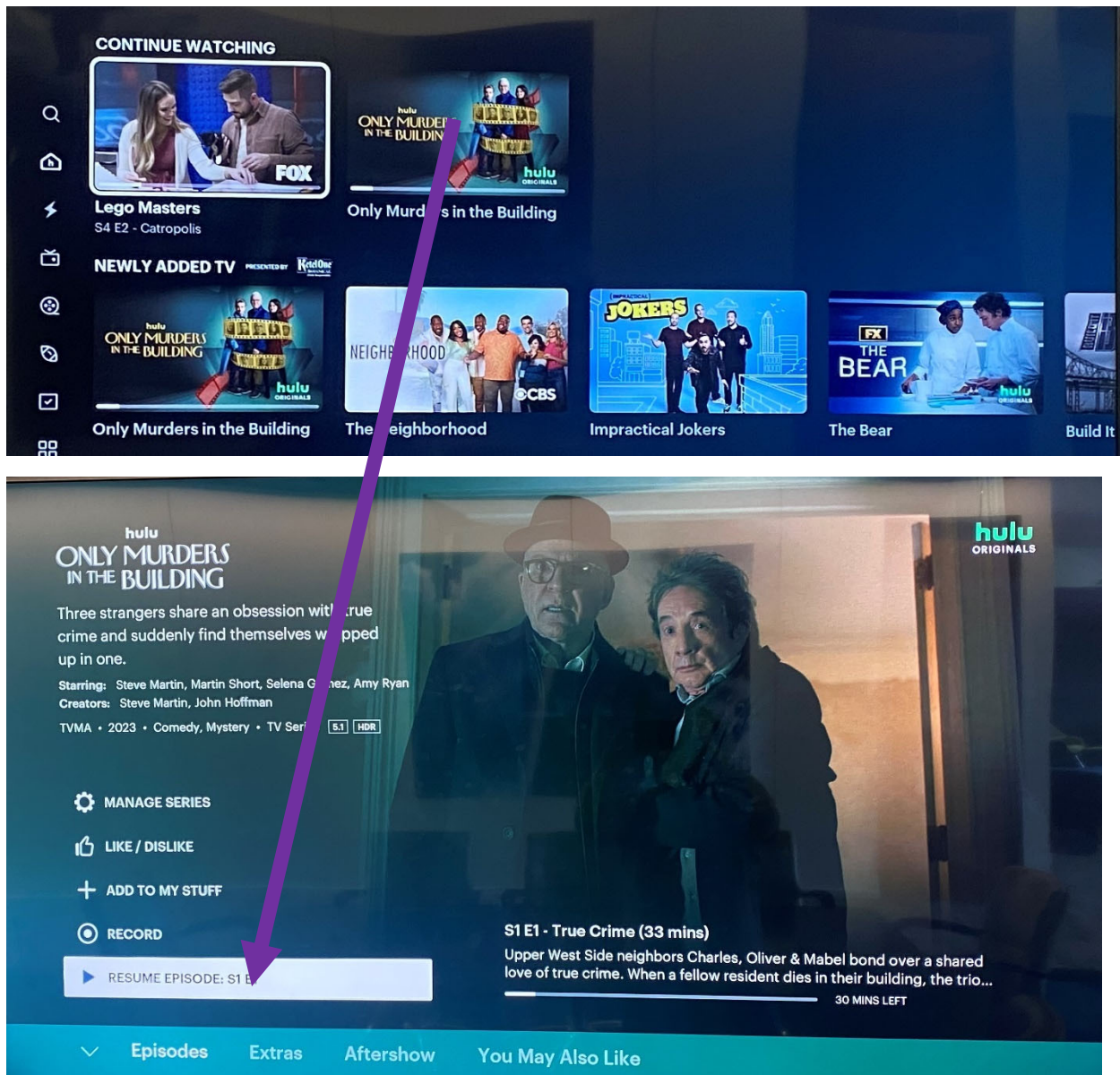
779. Hulu generates for display, on a display screen, a first user-selectable link corresponding to the first progress point in the first serial program, *e.g.*, the thumbnail image for a first serial program in the Continue Watching row. Hulu generates for display, on a display screen, a second user-selectable link corresponding to the second progress point in the second serial program, *e.g.*, the thumbnail image for a second serial program in the Continue Watching row. The first and second user-selectable links are adjacent.

780. Selecting the first user-selectable link causes a first option for generating for display the first serial program at the first progress point to be displayed, and similarly for the second user-

selectable link. For example, when a user selects one of the thumbnails in the Continue Watching row, Hulu presents an option for playing the serial program at the first progress point.



781. As a further example, when a user selects a second of the thumbnails in the continue watching row, Hulu presents an option for playing the serial program at the second progress point.



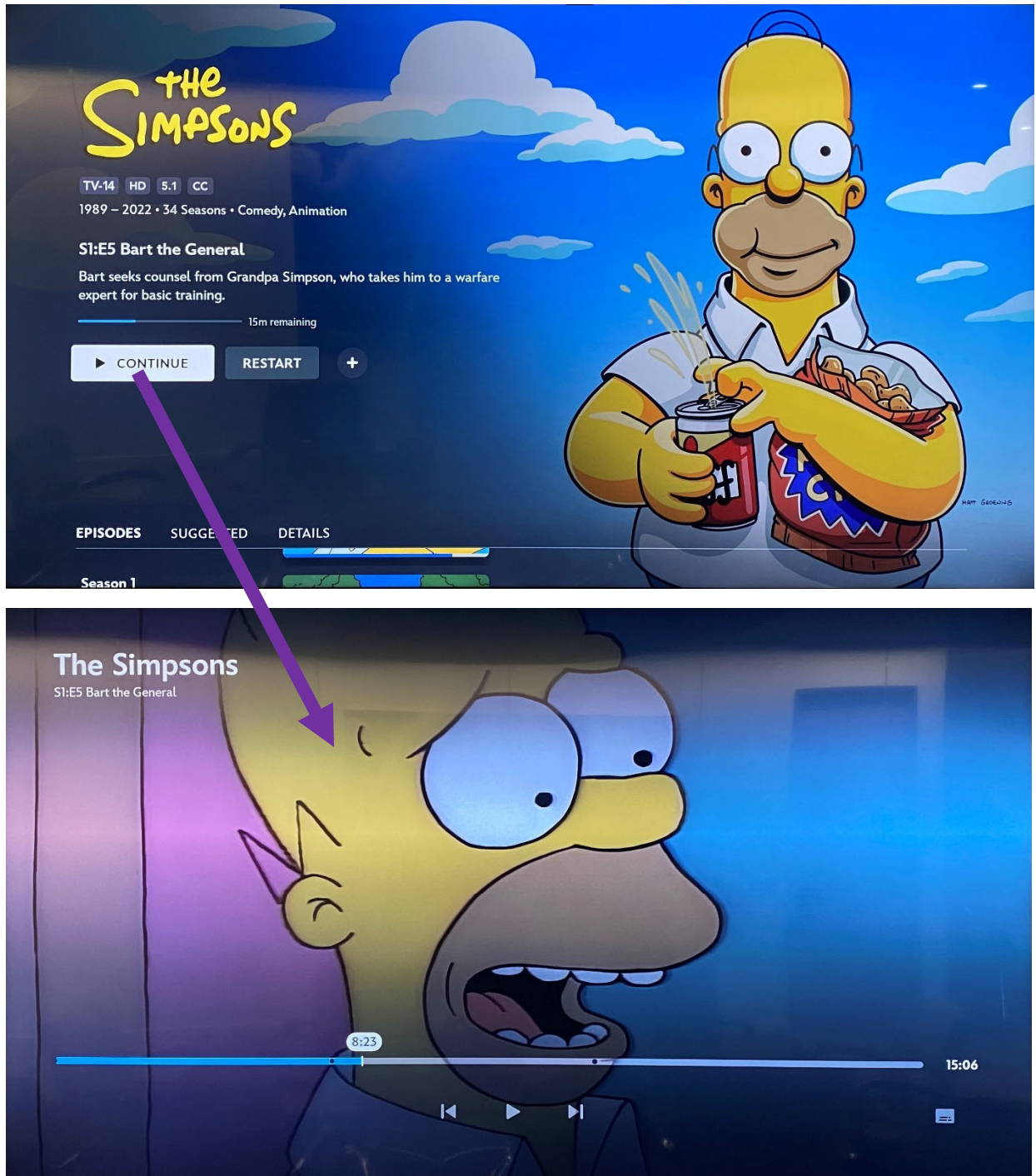
782. Claim 1 of the '324 patent recites: “receiving a user selection of the first link; in response to receiving the user selection of the first link, generating for display the first option.” The Disney+ and Hulu services perform this element.

783. Disney+ provides that, a user selection of a first serial program in the Continue Watching row, generates for display the first option (i.e., to resume the serial program at the progress point), as shown above.

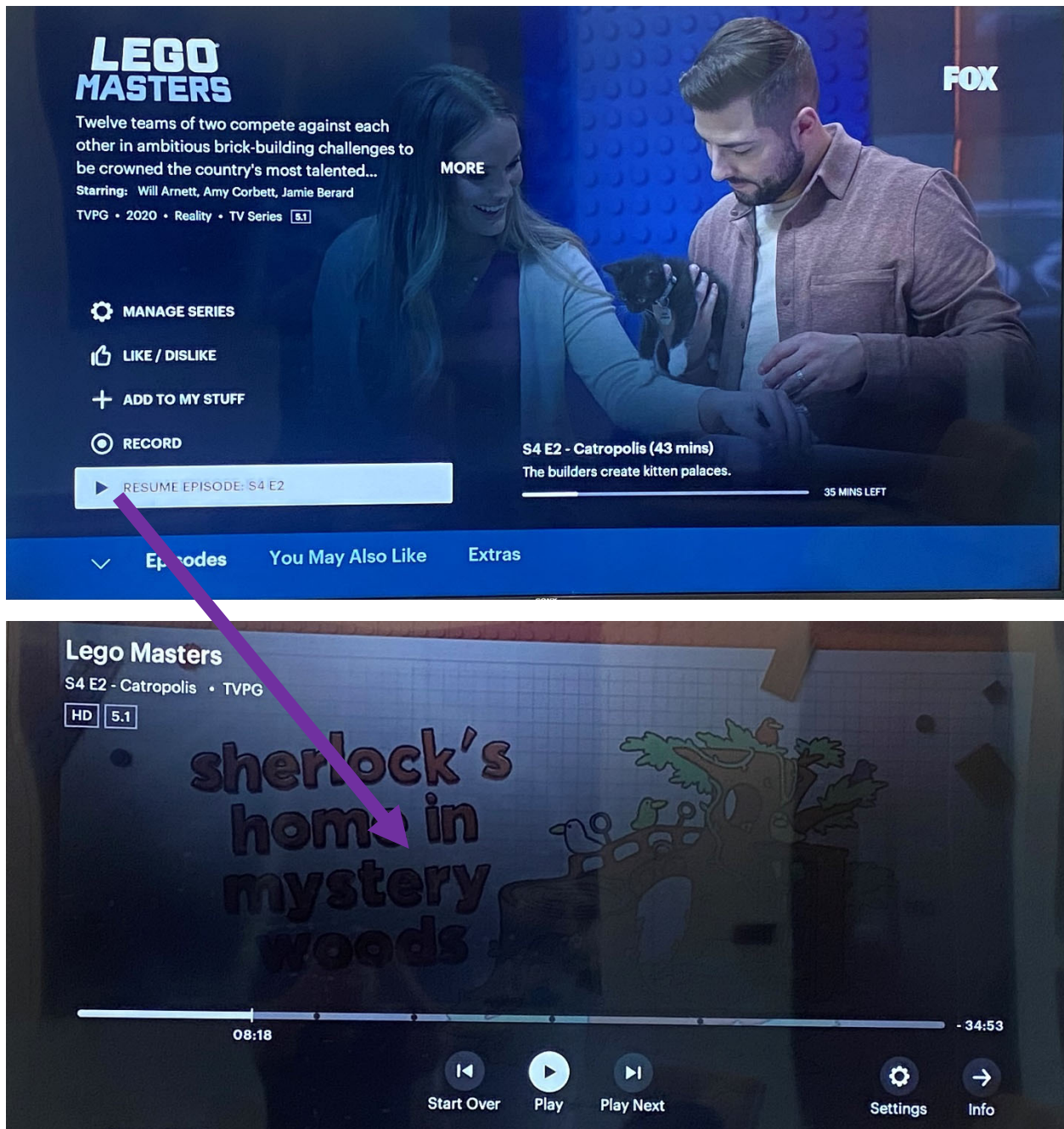
784. Hulu provides that, a user selection of a first serial program in the Continue Watching row, generates for display the first option (i.e., to resume the serial program at the progress point), as shown above.

785. Claim 1 of the '324 patent recites: “receiving a user selection of the first option; and in response to receiving the user selection of the first option, generating for display the serial program at the first progress point.” The Disney+ and Hulu services perform this element.

786. Disney+ provides that, a user selection of the first option, causes the first serial program to be generated for display at the first progress point, as shown below:



787. Hulu provides that, a user selection of the first option, causes the first serial program to be generated for display at the first progress point, as shown below:



788. As described above, Defendants make, use, sell, and offer to sell the Disney+ and Hulu services.

789. As described above, Defendants also test Disney+ and Hulu for development purposes and to ensure quality of service.

790. In addition or in the alternative, Defendants direct or control their customers' performance of one or more claimed steps of the '324 patent claims, condition the benefits of Disney+ and Hulu on the performance of those steps, and/or have the power, right, and ability to stop the performance of those steps but decline to do so and instead profit from their performance. Defendants control access to Disney+ and Hulu. Defendants thus condition their customers' use and operation of the Accused Instrumentalities in a way that would cause the performance of the claimed method steps. Thus, the performance of the claimed method steps is attributable to Defendants.

791. Accordingly, Defendants directly infringe, literally and/or under the doctrine of equivalents, the '324 patent under 35 U.S.C. § 271(a).

792. In addition, Defendants have indirectly infringed the '324 patent under 35 U.S.C. § 271(b).

793. Defendants have induced infringement by each other and others, such as their respective subsidiaries and end-user customers.

794. Defendants' advertising, sales, design, development, and/or technical materials related to operation of the Accused Instrumentalities contained and continue to contain instructions, directions, suggestions, and/or invitations that invite, entice, lead on, influence, encourage, prevail on, move by persuasion, and/or cause its subsidiaries and customers to directly infringe at least one claim of the '324 patent, either literally or under the doctrine of equivalents.

795. Additionally, Defendants have induced infringement by the Disney+ service's end-user customers, for example, by implementing the infringing features in its Disney+ service, encouraging its users to use that functionality within the United States, requiring its users to use

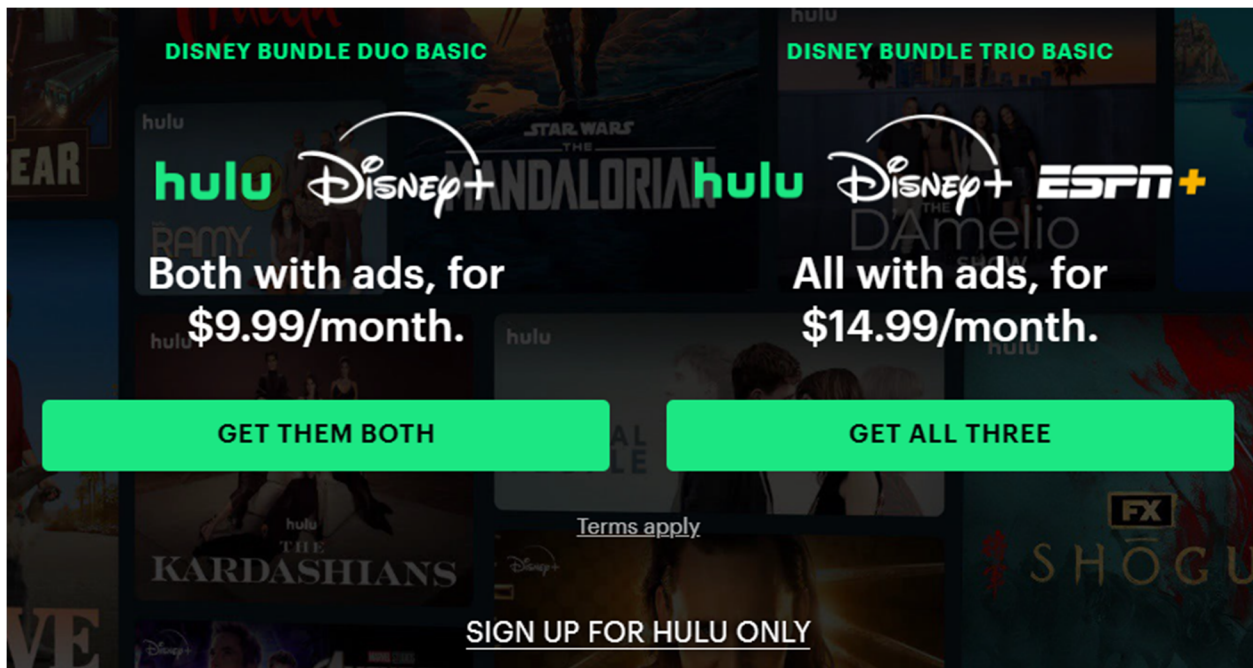
the Disney+ app or website in order to obtain the Disney+ streaming service, and/or instructing, dictating, or training its customers to use the infringing features.

796. Additionally, Defendants have induced infringement by the Hulu service's end-user customers, for example, by implementing the infringing features in its Hulu service, encouraging its users to use that functionality within the United States, requiring its users to use the Hulu app or website in order to obtain the Hulu streaming service, and/or instructing, dictating, or training its customers to use the infringing features.

797. In addition, Defendants sell, offer to sell, advertise, invite, entice, lead on, influence, encourage, prevail on, move by persuasion, and/or cause customers to subscribe to Disney+ and Hulu.

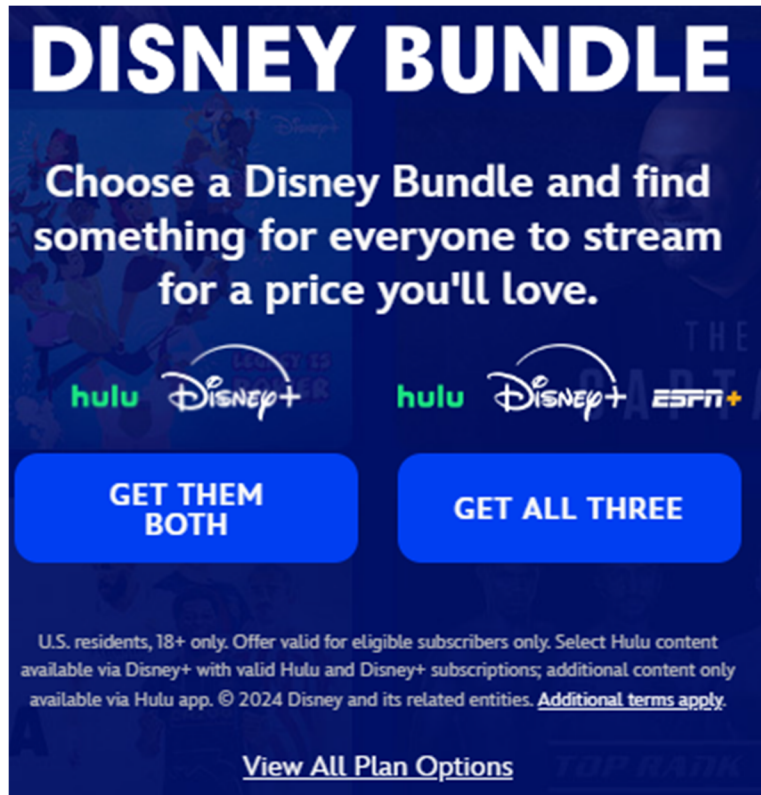
798. For example, Hulu directs potential customers looking to sign up for streaming services to information about Disney+, encourages customers to sign up for Disney+, and offers to provide discounted rates to customers that sign up for Disney+:⁶⁹

⁶⁹ HULU, <https://www.hulu.com/welcome>.



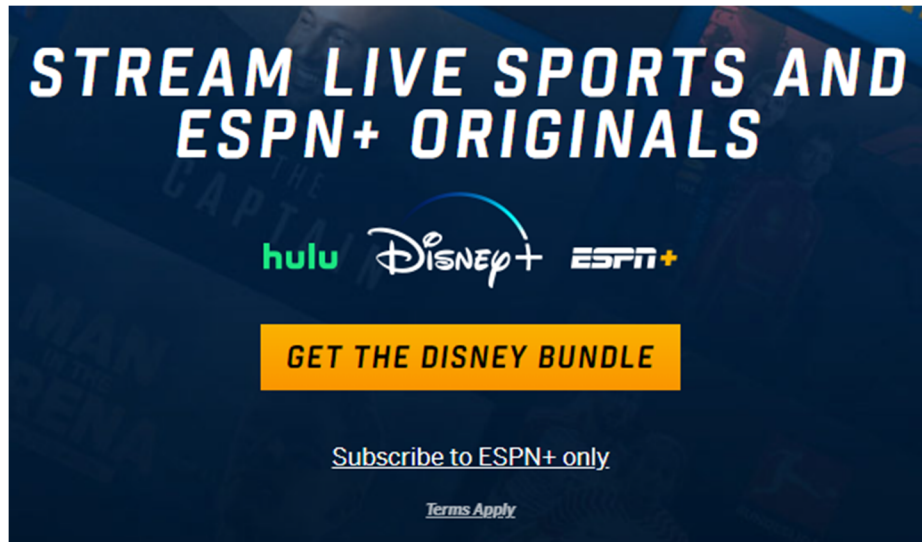
799. As another example, Disney+ directs potential customers looking to sign up for streaming services to information about Hulu, encourages customers to sign up for Hulu and ESPN+, and offers discounted rates to customers that sign up for Hulu:⁷⁰

⁷⁰ *Disney Bundle*, DISNEY+, <https://www.disneyplus.com/welcome/disney-hulu-espn-bundle>.



800. In addition, ESPN+ directs potential customers looking to sign up for streaming services to information about the Hulu and Disney+ streaming services on its website, encourages potential customers to subscribe to Hulu and Disney+, and offers to provide discounted rates to customers that sign up for Hulu and Disney+:⁷¹

⁷¹ ESPN+, <https://plus.espn.com/>.



801. Defendants took the above actions intending to cause infringing acts by others, and/or it willfully blinded itself as to the existence of the Asserted Patent and the Accused Instrumentalities' infringement thereof.

802. Accordingly, Defendants have indirectly infringed the '324 patent under 35 U.S.C. § 271(b).

803. Defendants' acts of infringement have caused damage to Adeia. Adeia is entitled to recover from Defendants the damages sustained by Adeia as a result of their wrongful acts in an amount subject to proof at trial.

COUNT 5: INFRINGEMENT OF U.S. PATENT NO. 8,542,705

804. Adeia incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

805. The '705 patent, entitled "Key frame detection and synchronization," issued on September 24, 2013, and names as inventors Kay Johansson and Kent Karlsson. The '705 patent is attached as Exhibit E.

806. Adeia Media Holdings LLC owns all rights, title, and interest in the '705 patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

807. The '705 patent is valid and enforceable and directed to patentable subject matter.

808. As a matter of law, the notice provisions of 35 U.S.C. § 287 do not apply in this case for the '639 patent, and therefore Adeia has satisfied its obligations under 35 U.S.C. § 287 with respect to the '705 patent.

809. MPEG video streams often encode media as a series of frames. Some are key frames, which provide substantial amounts of the data needed to display an image, while others are predictive frames that provide information about the differences between the predictive frame and a reference key frame. Key frames are an essential part of the data stream, and without them, predictive frames—which are more bandwidth efficient—cannot be accurately displayed.

810. But streaming services relying on conventional key-frame encoding techniques suffered from numerous issues. For example, if a client device requested a media stream while a user was changing the channel, launching an application, or performing some other action that initiates a request for a particular media stream or channel, the client device would likely begin receiving predictive frames. Without the relevant key frame, it could either provide a distorted picture or simply drop the frames entirely. This could create a significant delay between the time the client sends the request and the time the client is able to start accurately displaying frames of the media.

811. Other solutions would increase the transmission rate of predictive frames to reduce the delay, but that type of transmission was not widely supported by networks, at least in part because it could be disruptive to the network, and, even with these “transmission bursts,” there

would still be delay in displaying content until a key frame was received. The delay issue was further exacerbated with live transmission. '705 patent at 3:36–47.

812. The '705 patent teaches that these issues can be overcome by using a smart, key frame sensitive buffer in the streaming server. Using the claimed invention of the '705 patent, an initial key frame can be provided to the user, rather than unusable predictive frames. With the invention, “[b]andwidth is better utilized, wait time is decreased, and user experience is improved.” *Id.* at 3:58–60.

813. In various embodiments, a streaming server identifies key frames in media streams maintained in one or more buffers and, when a connection request is received from a client, a key frame is provided to the client device, even if the key frame is not the first available frame. This allows a client device to receive a frame that it can display without distortion and with reduced delay, as unusable predictive frame transmission is decreased.

814. While the '705 patent claims numerous specific steps, generally, buffers at the streaming server are allocated on a “group of pictures” or GOP basis. Key frames and predictive frames are associated with a GOP and maintained in buffer or buffer portions. By delivering key frames rather than unusable predictive frames to clients, they solve technical problems that conventional content streaming solutions could not, better utilizing bandwidth, minimizing wait times, and improving the overall user experience.

815. Moreover, the components recited in the claims are unconventional, non-routine, and were not well understood at the time of the invention, whether considered alone or as an ordered combination.

816. Hulu, LLC infringes one or more claims of the '705 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

817. ESPN, Inc. infringes one or more claims of the '705 patent by making, using, selling and/or offering to sell ESPN+ in this District and elsewhere in the United States, and/or importing ESPN+ into this District and elsewhere in the United States.

818. BAMTech, LLC infringes one or more claims of the '705 patent by making, using, selling and/or offering to sell ESPN+ in this District and elsewhere in the United States, and/or importing ESPN+ into this District and elsewhere in the United States.

819. Disney DTC LLC infringes one or more claims of the '705 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

820. Disney Entertainment & Sports LLC infringes one or more claims of the '705 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

821. Disney Entertainment & Sports LLC infringes one or more claims of the '705 patent by making, using, selling and/or offering to sell ESPN+ in this District and elsewhere in the United States, and/or importing ESPN+ into this District and elsewhere in the United States.

822. Disney Streaming Services LLC infringes one or more claims of the '705 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

823. Disney Streaming Services LLC infringes one or more claims of the '705 patent by making, using, selling and/or offering to sell ESPN+ in this District and elsewhere in the United States, and/or importing ESPN+ into this District and elsewhere in the United States.

824. Disney Platform Distribution, Inc. infringes one or more claims of the '705 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

825. Disney Platform Distribution, Inc. infringes one or more claims of the '705 patent by making, using, selling and/or offering to sell ESPN+ in this District and elsewhere in the United States, and/or importing ESPN+ into this District and elsewhere in the United States.

826. Disney Media and Entertainment Distribution LLC infringes one or more claims of the '705 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

827. Disney Media and Entertainment Distribution LLC infringes one or more claims of the '705 patent by making, using, selling and/or offering to sell ESPN+ in this District and elsewhere in the United States, and/or importing ESPN+ into this District and elsewhere in the United States.

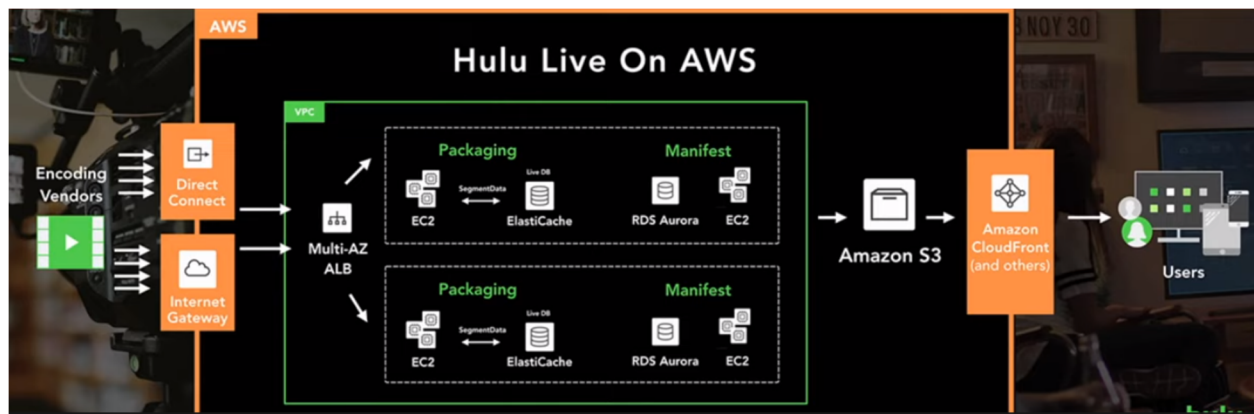
828. The Walt Disney Company infringes one or more claims of the '705 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

829. The Walt Disney Company infringes one or more claims of the '705 patent by making, using, selling and/or offering to sell ESPN+ in this District and elsewhere in the United States, and/or importing ESPN+ into this District and elsewhere in the United States.

830. Adeia provides the following explanation of infringement with regard to an exemplary claim compared to exemplary functionality. Adeia reserves the right to present additional or alternative explanations of infringement for the claim and functionalities identified below and for other claims and functionalities of the services.

831. Claim 1 of the '705 patent recites: "A method comprising: receiving a first media stream including a first plurality of frames, the first media stream received at a streaming server and maintained in a first buffer, the streaming server configured to receive the first media stream from a media aggregation server, wherein a plurality of buffers at the streaming server are allocated on a per group of pictures (GOP) basis." The Hulu Live and ESPN+ services perform this element.

832. In particular, Hulu, either itself or through its vendors, receives media streams from live television sources, including a first plurality of frames. The media stream is received at a streaming server and maintained in a first buffer. A streaming server is configured to receive the first media stream from a media aggregation server, as shown below:⁷²



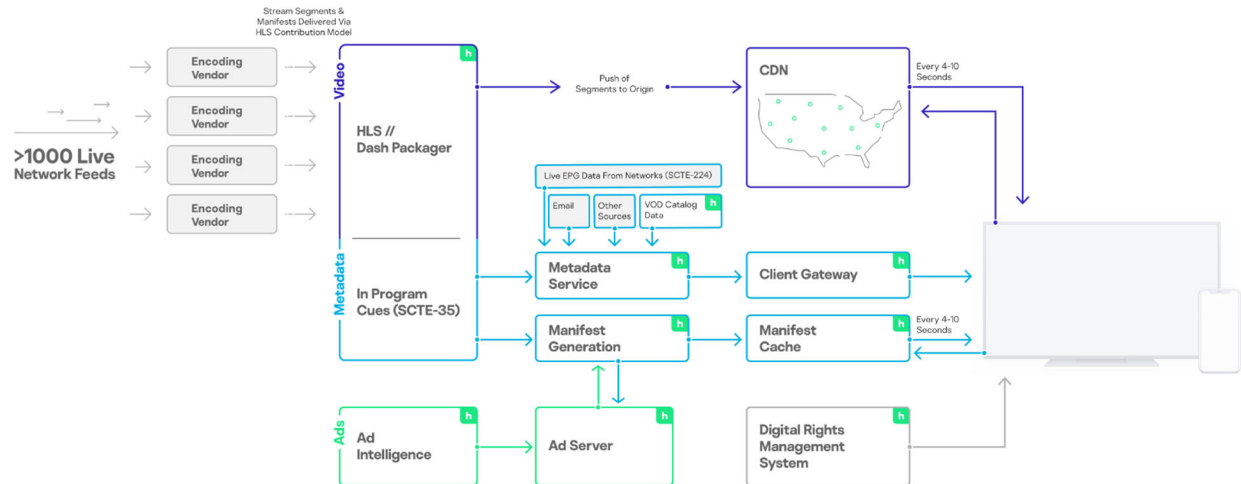
833. Hulu stores media encoded using at least H.264 and MPEG-4.

⁷² Hulu Case Study, AWS (2017), <https://aws.amazon.com/solutions/case-studies/hulu/>.

834. H.264 and MPEG-4 encoding results in video comprising a plurality of key frames (i-frames) and predictive frames (p-frames and b-frames).

835. Hulu further packages a key frame with subsequent predictive frames into segments using HLS and/or MPEG Dash, as illustrated below:⁷³

Live OTT Service on Hulu



836. The '705 patent states: "According to various embodiments, a sequence of different frame[] types, beginning with a key frame and ending just before a subsequent key frame, is referred to herein as a Group of Pictures (GOP)."

837. Hulu maintains a plurality of buffers at the streaming server that are allocated on a per group of pictures (GOP) basis.

838. ESPN+, either itself or through its vendors, receives media streams from live television sources, including a first plurality of frames. The media stream is received at a streaming

⁷³ Troy Dreier, *Hulu Talks About the Challenges of Live Video One Year Later*, STREAMING MEDIA (Sept. 18, 2018), <https://www.streamingmedia.com/Articles/Editorial/Featured-Articles/Hulu-Talks-About-the-Challenges-of-Live-Video-One-Year-Later-127464.aspx>.

server and maintained in a first buffer. A streaming server is configured to receive the first media stream from a media aggregation server.

839. ESPN+ stores media encoded using at least H.264.

840. H.264 encoding results in video comprising a plurality of key frames (i-frames) and predictive frames (p-frames and b-frames).

841. ESPN+ further packages a key frame with subsequent predictive frames into segments using HLS.

842. ESPN+ maintains a plurality of buffers at the streaming server that are allocated on a per group of pictures (GOP) basis.

843. Claim 1 of the '705 patent recites: "receiving a second media stream including a second plurality of frames, the second media stream received at the streaming server and maintained in a second buffer." The Hulu Live and ESPN+ services perform this element.

844. Hulu receives a second media stream (*e.g.*, video content corresponding to a different live television source). This media stream is also formatted and streamed using H.264 and/or MPEG-4, and thus it includes a second plurality of frames. As explained above, the second media stream is received at the streaming server and maintained in a second buffer.

845. ESPN+ receives a second media stream (*e.g.*, video content corresponding to a different live television source). This media stream is also formatted and streamed using H.264, and thus it includes a second plurality of frames. As explained above, the second media stream is received at the streaming server and maintained in a second buffer.

846. Claim 1 of the '705 patent recites: "determining positions of a plurality of key frames in the first buffer and the second buffer, the plurality of key frames including a first key frame in the first buffer and a second key frame in the second buffer, wherein determining positions

of the plurality of key frames includes determining at the streaming server a group of pictures (GOP) size N and identifying Nth frames following the first key frame as subsequent key frames.”

The Hulu Live and ESPN+ services perform this element.

847. Hulu packages video segments for streaming using MPEG-DASH and HLS and each segment begins with a key frame followed by N non-key frames.

848. Hulu identifies its segments as having an SAP value of one indicating that they are Closed GOPs.⁷⁴

NOTE The type of SAP is dependent only on which access units are correctly decodable and their arrangement in presentation order. The types informally correspond with some common terms:

- Type 1 corresponds to what is known in some coding schemes as a “Closed GoP random access point” (in which all access units, in decoding order, starting from I_{SAP} can be correctly decoded, resulting in a continuous time sequence of correctly decoded access units with no gaps) and in addition the access unit in decoding order is also the first access unit in presentation order.

849. In addition, Hulu generates manifests for the segments it receives. At least one manifest identifies and describes each segment, including information such as duration and framerate.

850. ESPN+ packages video segments for streaming using HLS and each segment begins with a key frame followed by N non-key frames.

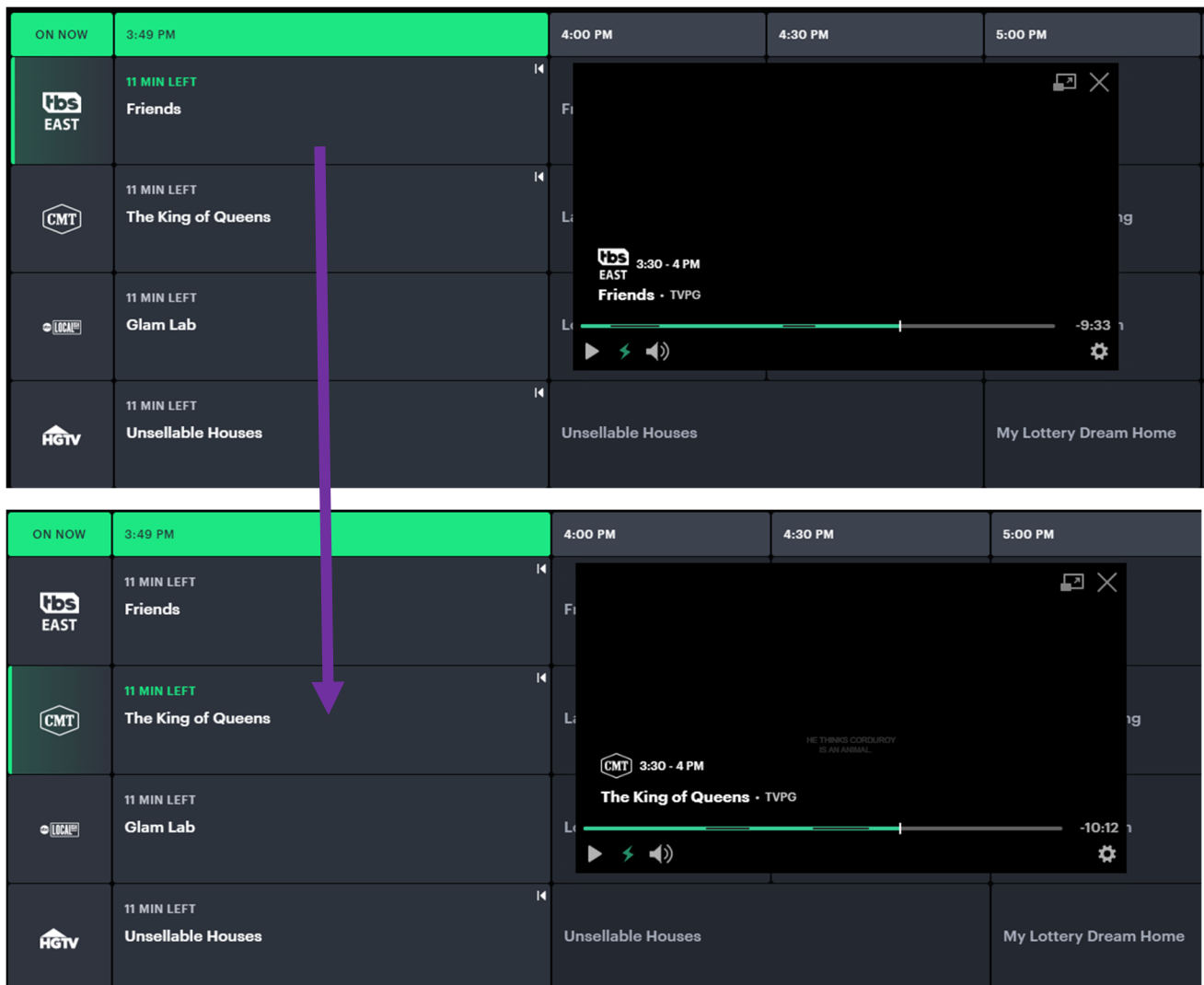
851. ESPN+ generates manifests for the segments it receives. At least one manifest identifies and describes each segment, including information such as duration and framerate.

852. Claim 1 of the ’705 patent recites: “receiving a channel change request from a client device receiving the first media stream, the channel change request corresponding to a switch from the first media stream to the second media stream.” The Hulu Live and ESPN+ services perform this element.

⁷⁴ MPEG-DASH standard (ISO/IEC 23009-1:2019) at § 4.5.2.

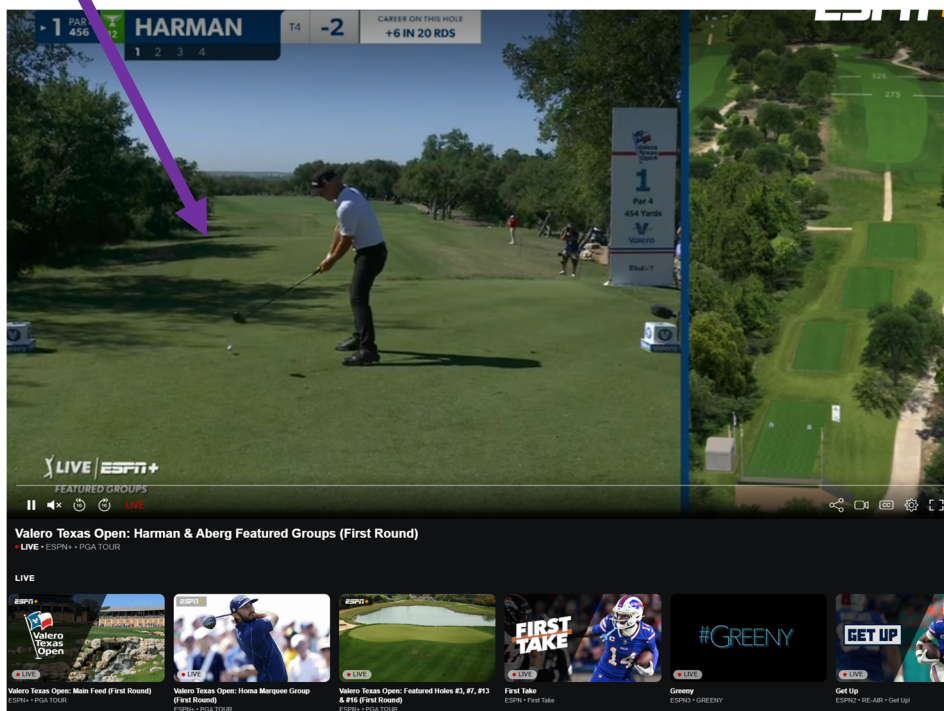
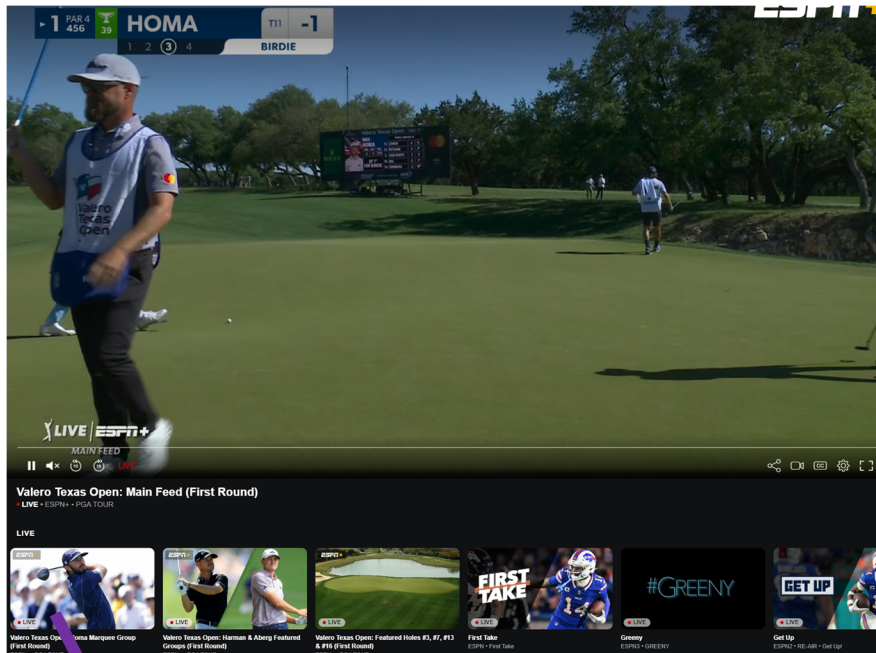
853. Hulu Live can receive a channel change request from a client device, the channel change request corresponding to a switch from a first media stream to a second media stream.

854. For example, a user watching a current channel can switch to a different channel by selecting the channel.



855. ESPN+ can receive a channel change request from a client device, the channel change request corresponding to a switch from a first media stream to a second media stream.

856. For example, a user watching a current channel can switch to a different channel by selecting the channel.



857. Claim 1 of the '705 patent recites: “identifying a next available key frame associated with the second media stream, wherein the next available key frame is provided as the second key frame in response to the channel change request, wherein no predictive frames are

transmitted at the beginning of the channel change request.” The Hulu Live and ESPN+ services perform this element.

858. When Hulu Live receives a request from a client to switch to a second channel, it must serve the second media stream to the client. The Hulu streaming server provides a manifest to the client that identifies the available segments, including the most recent available segment. This segment begins with the next available key frame, not predictive frames.

859. When ESPN+ receives a request from a client to switch to a second channel, it must serve the second media stream to the client. The ESPN+ streaming server provides a manifest to the client that identifies the available segments, including the most recent available segment. This segment begins with the next available key frame, not predictive frames.

860. As described above, Defendants make, use, sell, and offer to sell the Hulu Live service.

861. In addition or in the alternative, Defendants direct or control the Hulu Live service customers’ performance of one or more claimed steps of the ’705 patent, condition the benefits of the Hulu Live service on the performance of those steps, and/or have the power, right, and ability to stop the performance of those steps but decline to do so, and instead profit from their performance. Defendants control access to the Hulu Live streaming service. Defendants thus condition their customers’ use and operation of the Hulu Live service in a way that would cause the performance of the claimed steps. Thus, the performance of the claimed steps is attributable to Defendants.

862. As described above, Defendants make, use, sell, and offer to sell the ESPN+ service.

863. In addition or in the alternative, Defendants direct or control the ESPN+ service customers' performance of one or more claimed steps of the '705 patent, condition the benefits of the ESPN+ service on the performance of those steps, and/or have the power, right, and ability to stop the performance of those steps but decline to do so, and instead profit from their performance. Defendants control access to the ESPN+ streaming service. Defendants thus condition their customers' use and operation of the ESPN+ service in a way that would cause the performance of the claimed steps. Thus, the performance of the claimed steps is attributable to Defendants.

864. As described above, Defendants also test Hulu Live and ESPN+ for development purposes and to ensure quality of service.

865. Accordingly, Defendants directly infringe, literally and/or under the doctrine of equivalents, the '705 patent under 35 U.S.C. § 271(a).

866. In addition, Defendants have indirectly infringed the '705 patent under 35 U.S.C. § 271(b).

867. Defendants have induced infringement by each other and others, such as their respective subsidiaries and end-user customers.

868. Defendants' advertising, sales, design, development, and/or technical materials related to operation of the Accused Instrumentalities contained and continue to contain instructions, directions, suggestions, and/or invitations that invite, entice, lead on, influence, encourage, prevail on, move by persuasion, and/or cause its subsidiaries and customers to directly infringe at least one claim of the '705 patent, either literally or under the doctrine of equivalents.

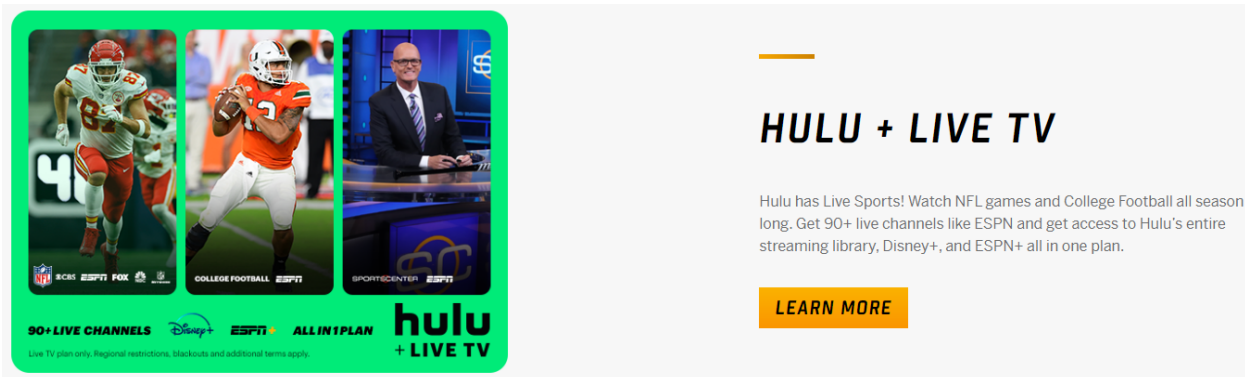
869. Additionally, Defendants have induced infringement by the Hulu Live service's end-user customers, for example, by implementing the infringing features in its Hulu Live service, encouraging its users to use that functionality within the United States, requiring its users to use

the Hulu app or website in order to obtain the Hulu Live streaming service, and/or instructing, dictating, or training its customers to use the infringing features.

870. Additionally, Defendants have induced infringement by the ESPN+ service's end-user customers, for example, by implementing the infringing features in its ESPN+ service, encouraging its users to use that functionality within the United States, requiring its users to use the ESPN+ app or website in order to obtain the ESPN+ streaming service, and/or instructing, dictating, or training its customers to use the infringing features.

871. In addition, Defendants sell, offer to sell, advertise, invite, entice, lead on, influence, encourage, prevail on, move by persuasion, and/or cause customers to subscribe to ESPN+ and Hulu Live.

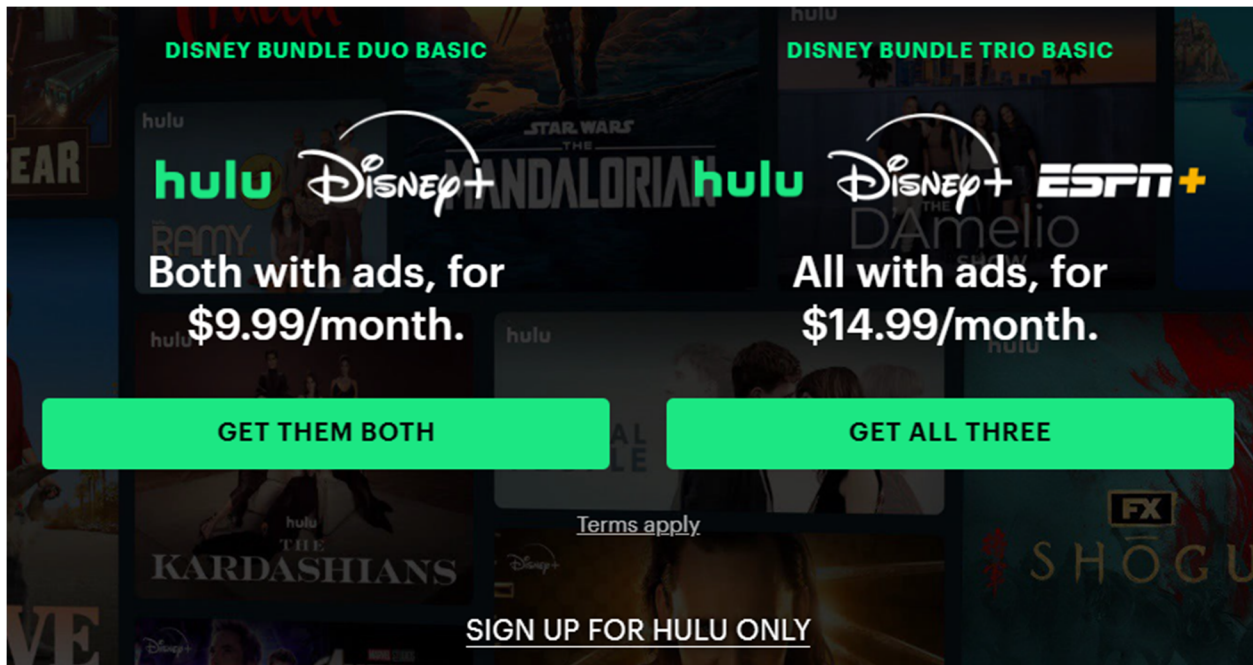
872. For example, ESPN+ directs potential customers looking to sign up for streaming services to information about the Hulu Live service on its website and encourages potential customers to subscribe to Hulu Live:⁷⁵



⁷⁵ See ESPN+, <https://plus.espn.com/> (“HULU + LIVE TV: Hulu has Live Sports! Watch NFL games and College Football all season long. Get 90+ live channels like ESPN and get access to Hulu’s entire streaming library, Disney+, and ESPN+ all in one plan.”).

873. Similarly, Disney+ directs potential customers looking to sign up for streaming services to information about the Hulu Live service on its website and encourages potential customers to subscribe to Hulu Live.⁷⁶

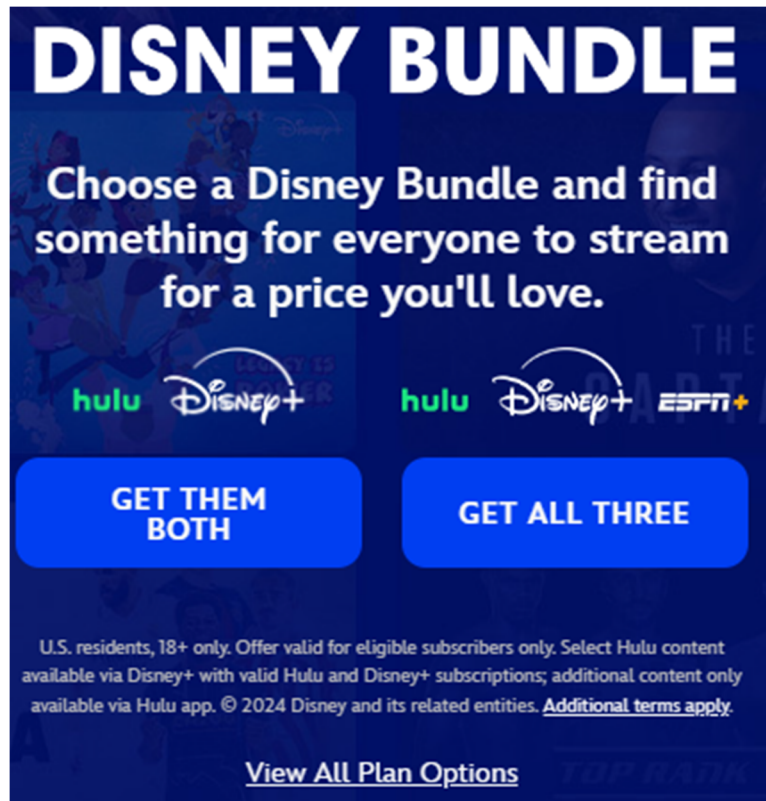
874. As another example, Hulu directs potential customers looking to sign up for streaming services to information about ESPN+, encourages customers to sign up for ESPN+, and offers to provide discounted rates to customers that sign up for ESPN+:⁷⁷



⁷⁶ See *Disney Bundle*, DISNEY+, <https://www.disneyplus.com/welcome/disney-hulu-espn-bundle> (“The Hulu + Live TV plans include 95+ live TV channels and additional on-demand content from your favorite sports, entertainment, and news channels you can watch at home or on-the-go. You will also get access to the content from Disney+, Hulu and ESPN+ streaming libraries. Access content from each service separately. Learn more and sign up here.”) (linking to <https://www.hulu.com/live-tv>).

⁷⁷ HULU, <https://www.hulu.com/welcome>.

875. As another example, Disney+ directs potential customers looking to sign up for streaming services to information about ESPN+, encourages customers to sign up for ESPN+, and offers discounted rates to customers that sign up for ESPN+:⁷⁸



876. Defendants took the above actions intending to cause infringing acts by others, and/or they willfully blinded themselves as to the existence of the Asserted Patent and the Accused Instrumentalities' infringement thereof.

877. Accordingly, Defendants have indirectly infringed the '705 patent under 35 U.S.C. § 271(b).

⁷⁸ *Disney Bundle*, DISNEY+, <https://www.disneyplus.com/welcome/disney-hulu-espn-bundle>.

878. Defendants' acts of infringement have caused damage to Adeia. Adeia is entitled to recover from Defendants the damages sustained by Adeia as a result of their wrongful acts in an amount subject to proof at trial.

COUNT 6: INFRINGEMENT OF U.S. PATENT NO. 9,235,428

879. Adeia incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

880. The '428 patent, entitled "User interface method and system for application programs implemented with component architectures," issued on January 12, 2016, and names Jeffrey A. Smith, Alan Page, S. Prasad Maruvada, and Scott A. Northmore as inventors. The '428 patent is attached as Exhibit F.

881. Adeia Technologies Inc. owns all rights, title, and interest in the '428 patent, and holds all substantial rights pertinent to this suit, including the right to sue and recover for all past, current, and future infringement.

882. The '428 patent is valid and enforceable and directed to patentable subject matter.

883. As a matter of law, the notice provisions of 35 U.S.C. § 287 do not apply in this case for the '428 patent, and therefore Adeia has satisfied its obligations under 35 U.S.C. § 287 with respect to the '428 patent.

884. The '428 patent "provides a method and system for providing a graphical user interface for application programs implemented with component architectures such as COM (Component Object Model), DCOM (Distributed Component Object Model), CORBA (Common Object Request Broker Architecture) and the like." '428 patent 1:19–24.

885. At the time of the invention of the '428 patent, applications with GUIs were known but GUIs were often written specifically for each application program effectively from scratch. Those hard-coded GUIs eventually gave way to ones implemented with frameworks or

architectures provided by operating systems. ’428 patent 1:25–41. “In addition to simplifying the construction of a user interface for an application program, each of these frameworks and systems could provide an interface with a common look and feel for application programs implemented under it.” *Id.* at 1:34–37.

886. While those GUIs represented an improvement, they still suffered from disadvantages: “For example, the GUI for an application program [was] usually fixed, and [could] not easily be updated to include new program features or capabilities without recompiling or reinstalling the entire application program.” *Id.* at 1:41–46. That was becoming “especially problematic” as applications were beginning to be implemented with component architectures, such as COM, DCOM, CORBA and the like, and such architectures permit new capabilities and/or features to be added to existing application programs by adding or changing appropriate modules of the program. *Id.* at 1:46–54. Updating a GUI was not easy to accomplish. *Id.*

887. What is more, while the look-and-feel of programs could be implemented at the operating system or GUI system level, “this look and feel [was] generally not independent of the operating system or GUI system and thus the user must be retrained, to some extent, to use even the same program when it is run on a different operating system or GUI system.” *Id.* at 1:55–61. For the same reason, running an application on a different operating system would generally require rewriting the code for the GUI, since the GUI was operating system-dependent.

888. Against this backdrop, the ’428 patent reflects an improvement to user interfaces, offering a consistent look-and-feel across interfaces that are generally operating system or platform independent and are dynamically updatable, allowing for component-based architectures. The inventions allow for a “web-browser paradigm, or the like, to be employed as the GUI for application programs implemented with a component architecture.” *Id.* at 2:9–12. Claim 9, for

example, describes operating a renderer for rendering the GUI of an application program, a proxy defined to provide the components to the renderer where the proxy appears to the renderer as a monolithic application program, and a workflow manager defined to communicate one or more document viewers and UI components to the proxy for provision to the renderer.

889. The specification explains that, in some embodiments, a DHTML browser could act as the renderer for the GUI. Thus, “platform independence of at least the GUI can be achieved, provided that a suitable DHTML browser is available for each platform of interest.” The specification teaches other technological benefits of the proposed software architecture: “This would allow application programs implemented in a client-server arrangement or with DCOM or DCOM-like components to be executed on one platform from a GUI being executed on another platform. If the application program components are implemented in Java, or in another platform independent manner, platform independence of the entire application program and its GUI can also be achieved.”

890. The '428 patent provides a specific implementation with specific structure that yields an improved user interface for computing devices that can enable platform independence of at least the GUI. Moreover, the components recited in the claims (including the proxy, renderer, and workflow manager) are unconventional both alone and in combination.

891. The specification also outlines numerous technical advantages that can result from utilizing the claimed architecture for creating the GUI. For example, it allows for individual components to be dynamically added to or removed from the application over time, or for individual components to be updated within the application over time. The '428 patent's architecture for creating the GUI envisioned such component-based applications and thus readily accommodates such changes to individual components. *See* '428 patent at 7:29-8:3.

892. Hulu, LLC infringes one or more claims of the '428 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

893. Hulu, LLC infringes one or more claims of the '428 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

894. Disney DTC LLC infringes one or more claims of the '428 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

895. Disney DTC LLC infringes one or more claims of the '428 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

896. Disney Entertainment & Sports LLC infringes one or more claims of the '428 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

897. Disney Entertainment & Sports LLC infringes one or more claims of the '428 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

898. Disney Streaming Services LLC infringes one or more claims of the '428 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

899. Disney Streaming Services LLC infringes one or more claims of the '428 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

900. Disney Platform Distribution, Inc. infringes one or more claims of the '428 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

901. Disney Platform Distribution, Inc. infringes one or more claims of the '428 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

902. Disney Media and Entertainment Distribution LLC infringes one or more claims of the '428 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

903. Disney Media and Entertainment Distribution LLC infringes one or more claims of the '428 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

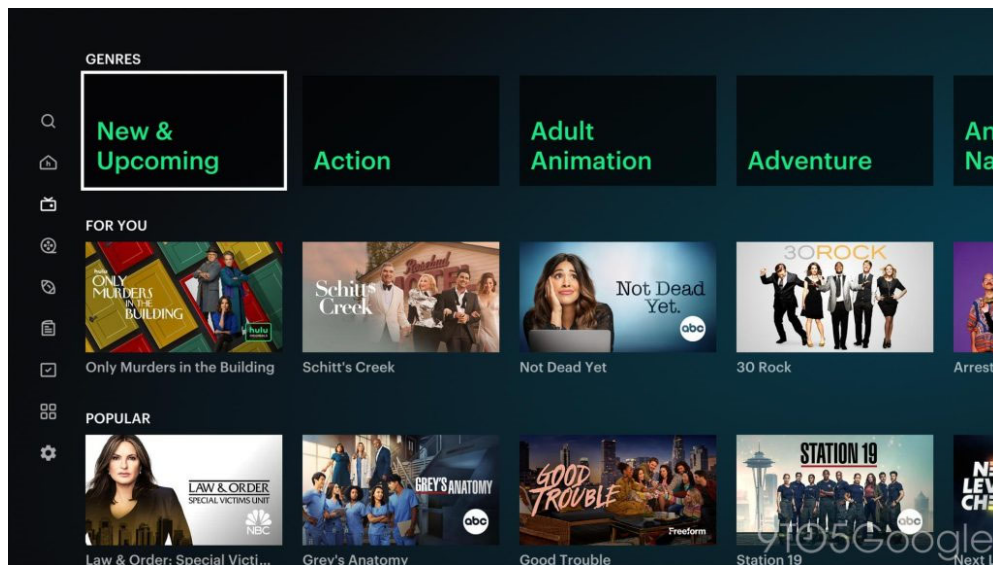
904. The Walt Disney Company infringes one or more claims of the '428 patent by making, using, selling and/or offering to sell Hulu Live in this District and elsewhere in the United States, and/or importing Hulu Live into this District and elsewhere in the United States.

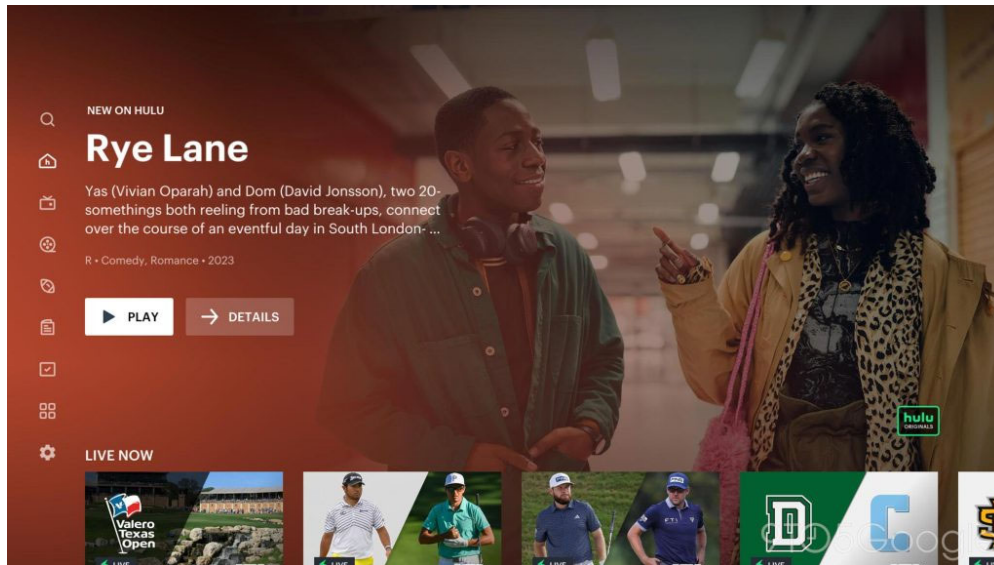
905. The Walt Disney Company infringes one or more claims of the '428 patent by making, using, selling and/or offering to sell Hulu in this District and elsewhere in the United States, and/or importing Hulu into this District and elsewhere in the United States.

906. Adeia provides the following explanation of infringement with regard to an exemplary claim compared to exemplary functionality. Adeia reserves the right to present additional or alternative explanations of infringement for the claim and functionalities identified below and for other claims and functionalities of the services.

907. Claim 9 of the '428 patent recites: “A method for providing a graphical user interface, comprising.” To the extent that this preamble is limiting, the Hulu and Hulu Live services perform this element.

908. For example, the Hulu Living Room App (*e.g.*, the Hulu app running on smart TVs, video game consoles, and streaming devices like Amazon Fire TV) provides a graphical user interface:





909. Claim 9 of the '428 patent recites: “operating a renderer to render a graphical user interface (GUI) for an application program.” The Hulu and Hulu Live services perform this element.

910. For example, the Hulu Living Room App is built on Hulu’s Client Device Platform (CDP). Hulu’s Webkit implementation provides the user interface for the Hulu Living Room App.

911. According to a Hulu Tech blog post:

Whenever a viewer launches the Hulu application on their device, they’re actually launching the CDP binary for that platform. After performing any necessary bootstrapping that may be required by the device, CDP will spin up its internal Webkit variant and issue network requests to load the appropriate device-specific Hulu web application endpoint and render the actual user experience.

...

This Webkit variant has a number of tweaks to its WebCore and JavaScriptCore components that optimize media streaming, but, most importantly, it’s responsible for rendering our hosted web application on each device platform.⁷⁹

⁷⁹ Hulu Tech, *Building the Hulu Experience in the Living Room*, MEDIUM (Mar. 6, 2018), <https://medium.com/disney-streaming/building-the-hulu-experience-in-the-living-room-10eabf5391d6>.

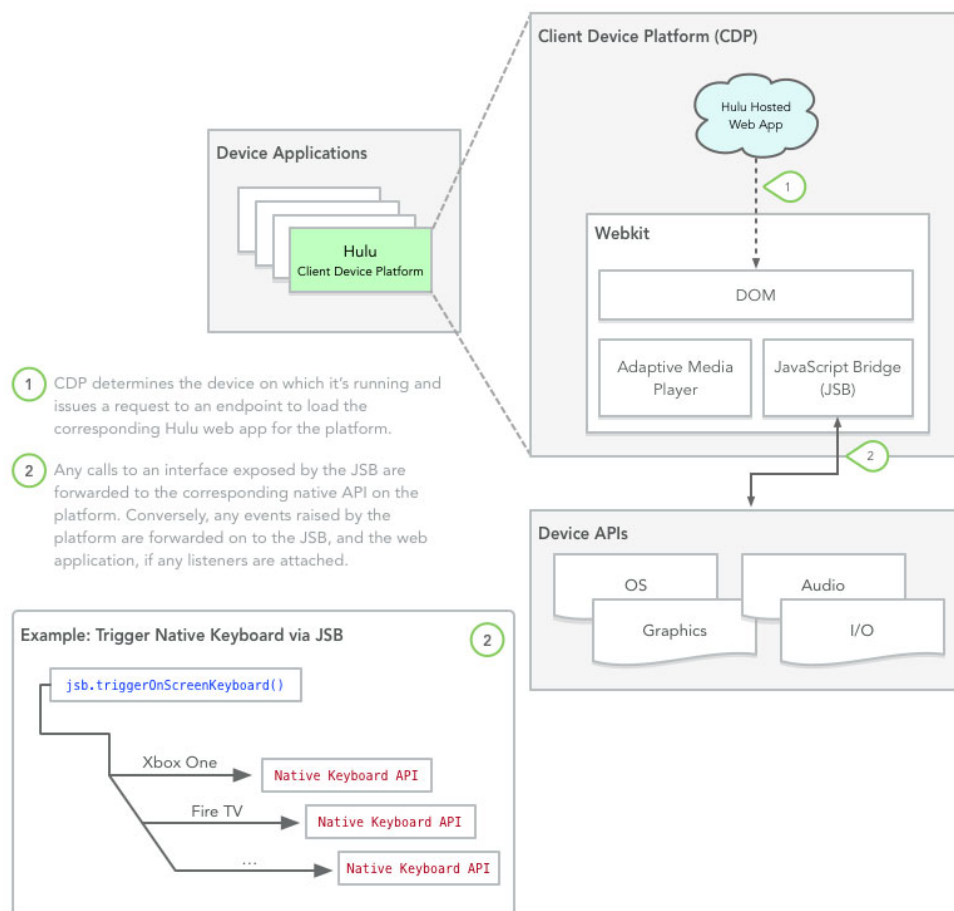
912. Claim 9 of the '428 patent recites: “operating a proxy to provide each component necessary for rendering the GUI to the renderer, wherein the proxy appears to the renderer as a single monolithic application program, and wherein the proxy is defined to determine changes required to be made to the GUI for the application program during execution of the application program, wherein a given change determined by the [proxy] is one of rendering a new layout in the GUI and updating a present layout in the GUI.” The Hulu and Hulu Live services perform this element.

913. The Hulu Living Room App operates a proxy to provide each component necessary for rendering the GUI to the renderer, wherein the proxy appears to the renderer as a single monolithic application program, and wherein the proxy is defined to determine changes required to be made to the GUI for the application program during execution of the application program, wherein a given change determined by the proxy is one of rendering a new layout in the GUI and updating a present layout in the GUI.

914. When the Hulu Living Room App is launched on a device, such as a Fire TV stick, it points the internal Hulu Webkit implementation to a location on a Hulu server where the web application code is available. The web application is built as a JavaScript Single Page Application (SPA).

915. The JavaScript web application includes a library written by Hulu called Quickdraw.⁸⁰ Quickdraw is used to create a binding between the application data (called the “model”) and what the user sees (called the “view”).

916. When data changes, Quickdraw can alter the Document Object Model (DOM) to update the view accordingly. Hulu’s WebKit implementation uses the DOM to create the GUI.

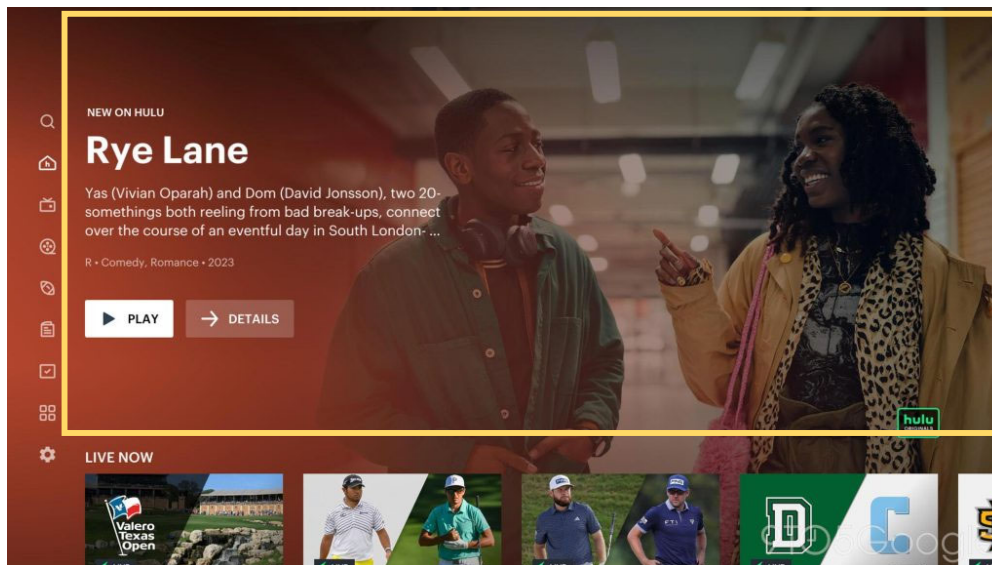


⁸⁰ See also Hulu Tech, *Open Sourcing Hulu’s Data-Binding Library for Low Powered Living Room Devices – Introducing Quickdraw.js*, MEDIUM (July 18, 2018), <https://medium.com/hulu-tech-blog/open-sourcing-hulus-data-binding-library-for-low-powered-living-room-devices-introducing-4e44a7eb5f1d> (“At Hulu, we leverage Quickdraw to quickly prototype, iterate, and release large scale UI changes, such as the recent live guide, across our entire living room device ecosystem.”).

917. Claim 9 of the '428 patent recites: “operating a workflow manager to communicate one or more document viewers and associated user interface components to the proxy for provision to the renderer as components necessary for rendering the GUI.” The Hulu and Hulu Live services perform this element.

918. The Hulu Living Room App operates a workflow manager to communicate one or more document viewers and associated user interface components to the proxy for provision to the renderer as components necessary for rendering the GUI.

919. For example, when a user loads a content details page while browsing on the Hulu Living Room App, the Javascript web application, utilizing QuickDraw, causes document viewers and associated user interface components to be displayed on the GUI, as shown in the image below.



920. As described above, Defendants make, use, sell, and offer to sell Hulu and Hulu Live.

921. As described above, Defendants also test Hulu and Hulu Live for development purposes and to ensure quality of service.

922. In addition or in the alternative, Defendants direct or control their customers' performance of one or more claimed steps of the '428 patent claims, condition the benefits of Hulu on the performance of those steps, and/or have the power, right, and ability to stop the performance of those steps but decline to do so and instead profit from their performance. Defendants control access to Hulu and Hulu Live. Defendants thus condition their customers' use and operation of the Accused Instrumentalities in a way that would cause the performance of the claimed method steps. Thus, the performance of the claimed method steps is attributable to Defendants.

923. Therefore, Defendants directly infringe, literally and/or under the doctrine of equivalents, the '428 patent under 35 U.S.C. § 271(a).

924. In addition, Defendants have indirectly infringed the '428 patent under 35 U.S.C. § 271(b).

925. Defendants have induced infringement by each other and others, such as their respective subsidiaries and end-user customers.

926. Defendants' advertising, sales, design, development, and/or technical materials related to operation of the Accused Instrumentalities contained and continue to contain instructions, directions, suggestions, and/or invitations that invite, entice, lead on, influence, encourage, prevail on, move by persuasion, and/or cause its subsidiaries and customers to directly infringe at least one claim of the '428 patent, either literally or under the doctrine of equivalents.

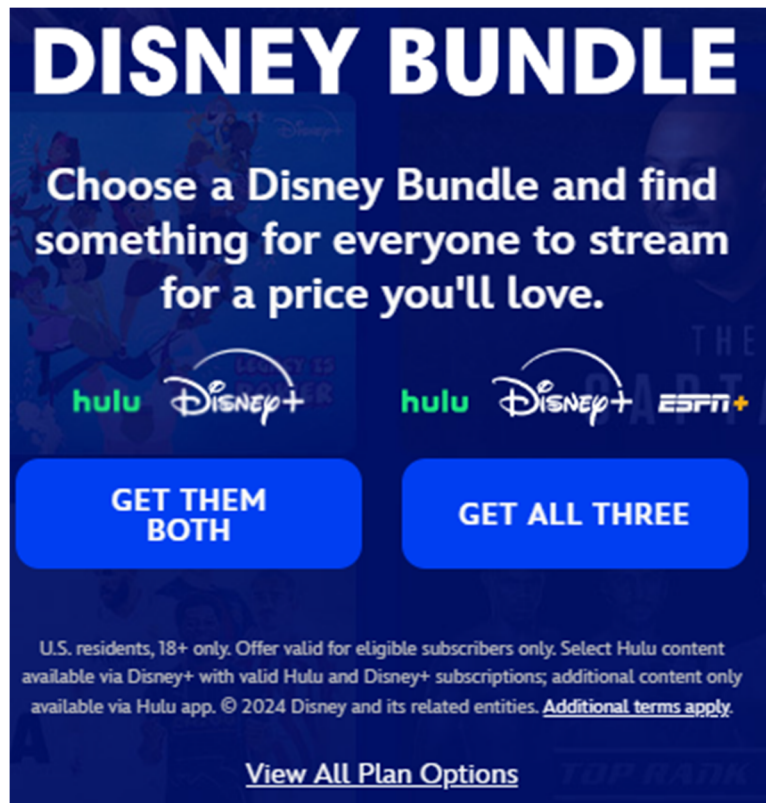
927. Additionally, Defendants have induced infringement by the Hulu service's end-user customers, for example, by implementing the infringing features in its Hulu service, encouraging its users to use that functionality within the United States, requiring its users to use the Hulu app or website in order to obtain the Hulu streaming service, and/or instructing, dictating, or training its customers to use the infringing features.

928. Additionally, Defendants have induced infringement by the Hulu Live service's end-user customers, for example, by implementing the infringing features in its Hulu Live service, encouraging its users to use that functionality within the United States, requiring its users to use the Hulu app or website in order to obtain the Hulu Live streaming service, and/or instructing, dictating, or training its customers to use the infringing features.

929. In addition, Defendants sell, offer to sell, advertise, invite, entice, lead on, influence, encourage, prevail on, move by persuasion, and/or cause customers to subscribe to Hulu and Hulu Live.

930. For example, Disney+ directs potential customers looking to sign up for streaming services to information about Hulu, encourages customers to sign up for Hulu, and offers discounted rates to customers that sign up for Hulu.⁸¹

⁸¹ *Disney Bundle*, DISNEY+, <https://www.disneyplus.com/welcome/disney-hulu-espn-bundle>.

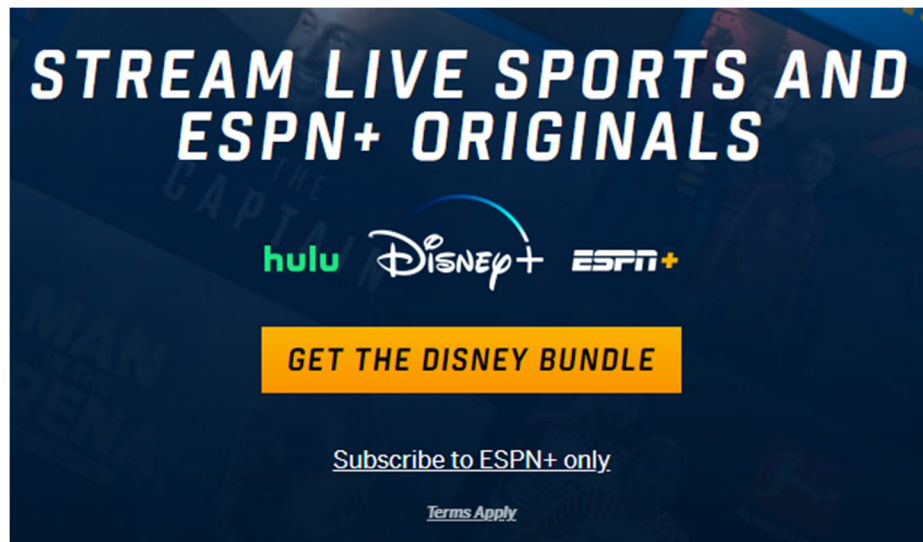


931. Similarly, Disney+ directs potential customers looking to sign up for streaming services to information about the Hulu Live service on its website and encourages potential customers to subscribe to Hulu Live.⁸²

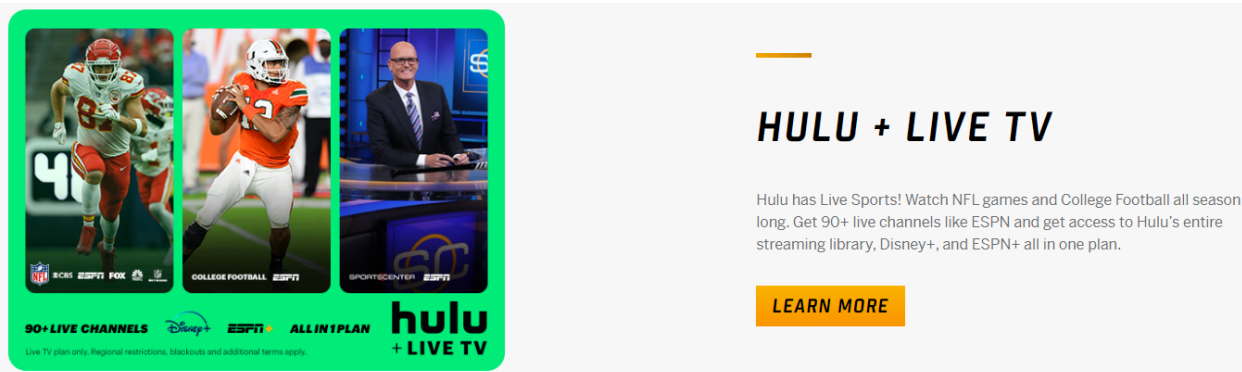
932. As another example, ESPN+ directs potential customers looking to sign up for streaming services to information about the Hulu streaming service on its website, encourages

⁸² See *Disney Bundle*, DISNEY+, <https://www.disneyplus.com/welcome/disney-hulu-espn-bundle> (“The Hulu + Live TV plans include 95+ live TV channels and additional on-demand content from your favorite sports, entertainment, and news channels you can watch at home or on-the-go. You will also get access to the content from Disney+, Hulu and ESPN+ streaming libraries. Access content from each service separately. Learn more and sign up here.”) (linking to <https://www.hulu.com/live-tv>).

potential customers to subscribe to Hulu, and offers to provide discounted rates to customers that sign up for Hulu.⁸³



933. Similarly, ESPN+ directs potential customers looking to sign up for streaming services to information about the Hulu Live service on its website and encourages potential customers to subscribe to Hulu Live.⁸⁴



⁸³ ESPN+, <https://plus.espn.com/>.

⁸⁴ ESPN+, <https://plus.espn.com/> (“HULU + LIVE TV: Hulu has Live Sports! Watch NFL games and College Football all season long. Get 90+ live channels like ESPN and get access to Hulu’s entire streaming library, Disney+, and ESPN+ all in one plan.”).

934. Defendants took the above actions intending to cause infringing acts by others, and/or they willfully blinded themselves as to the existence of the Asserted Patent and the Accused Instrumentalities' infringement thereof.

935. Accordingly, Defendants have indirectly infringed the '428 patent under 35 U.S.C. § 271(b).

936. Defendants' acts of infringement have caused damage to Adeia. Adeia is entitled to recover from Defendants the damages sustained by Adeia as a result of their wrongful acts in an amount subject to proof at trial.

JURY DEMAND

Plaintiffs hereby demand a trial by jury on all issues so triable.

PRAYER FOR RELIEF

WHEREFORE Plaintiffs Adeia Media Holdings LLC, Adeia Technologies Inc., and Adeia Guides Inc. ask this Court for an order granting the following relief:

- A. A judgment in favor of Plaintiffs that Defendants have infringed, either literally and/or under the doctrine of equivalents, the '639, '987, '595, '324, '705, and '428 patents;
- B. A judgment and order finding that Defendants' infringement has been willful;
- C. A permanent injunction prohibiting Defendants from further acts of infringement;
- D. A judgment and order requiring Defendants to pay Plaintiffs their damages, costs, expenses, and any enhanced damages to which Plaintiffs are entitled for Defendants' infringement;
- E. A judgment and order requiring Defendants to provide an accounting and to pay supplemental damages to Plaintiffs, including without limitation, pre-judgment and post-judgment interest;
- F. A judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding Plaintiffs their reasonable attorneys' fees against Defendants; and

G. Any and all other relief as the Court may deem appropriate and just under the circumstances.

Dated: November 7, 2024

Respectfully submitted,

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